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# THE South African

# MINING JOURNAL

WITH WHICH IS INCORPORATED

"The South African Mines, Commerce & Industries."

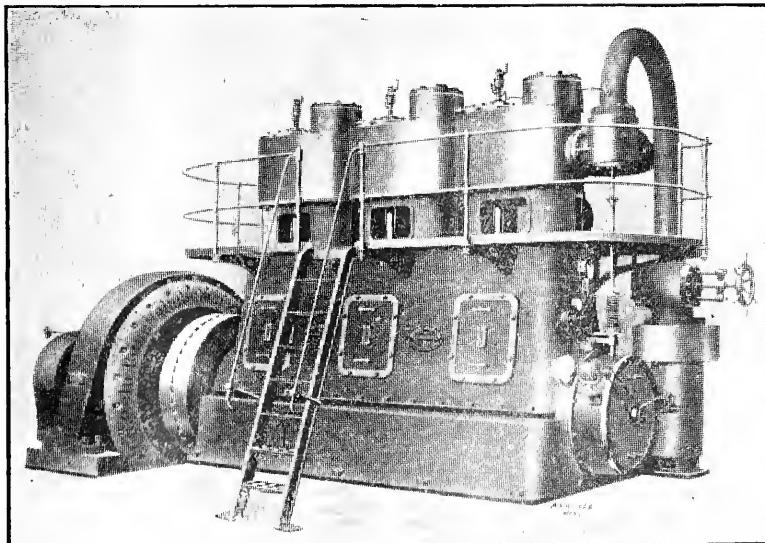
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[WEEKLY, PRICE 6D.

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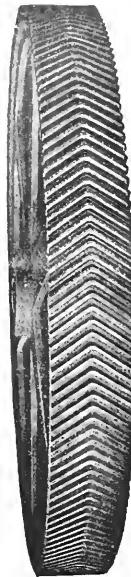
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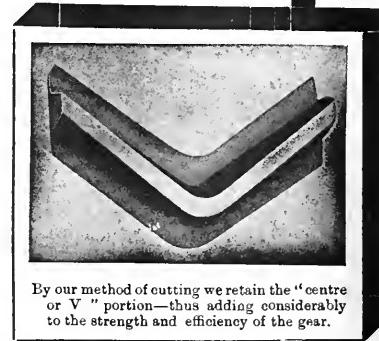
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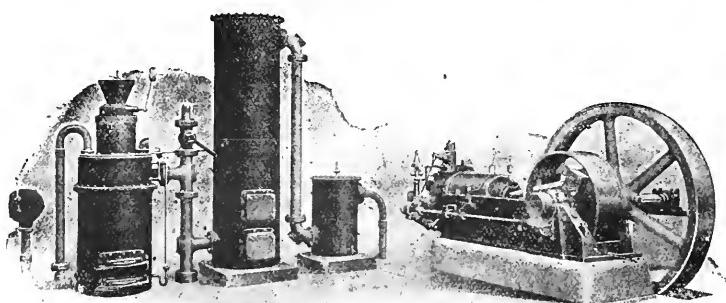
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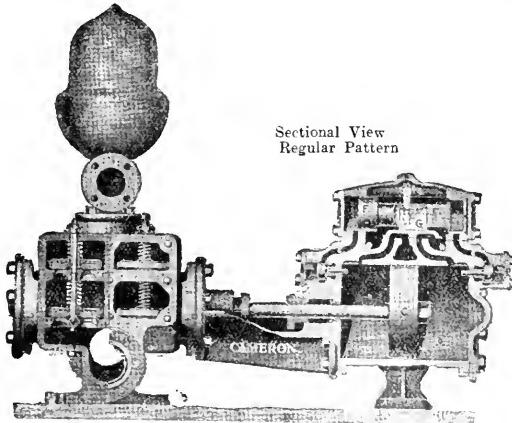
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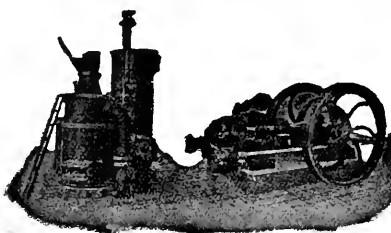
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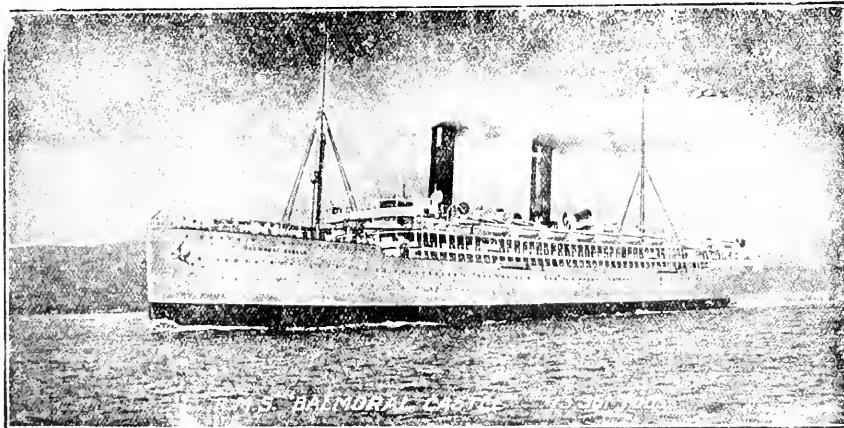
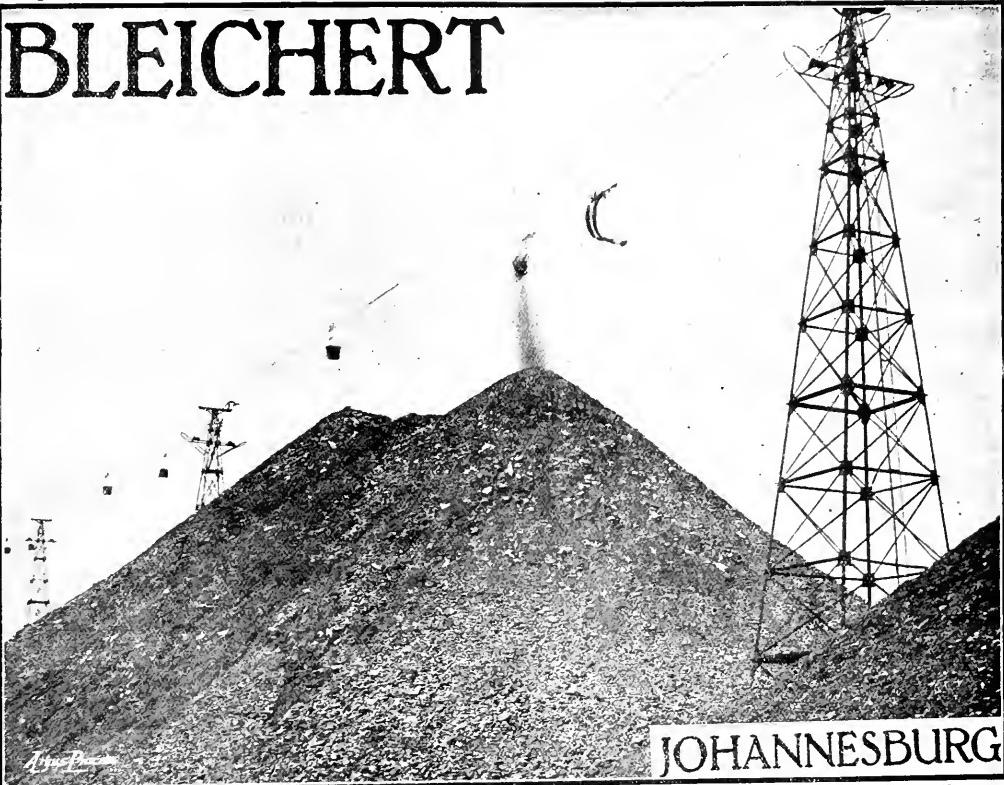
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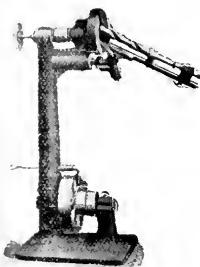
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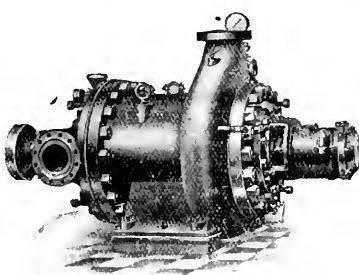
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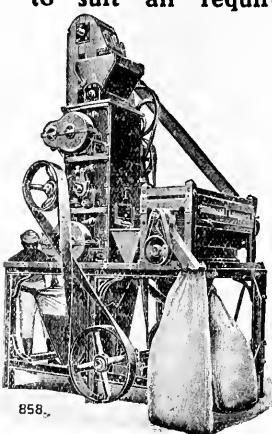
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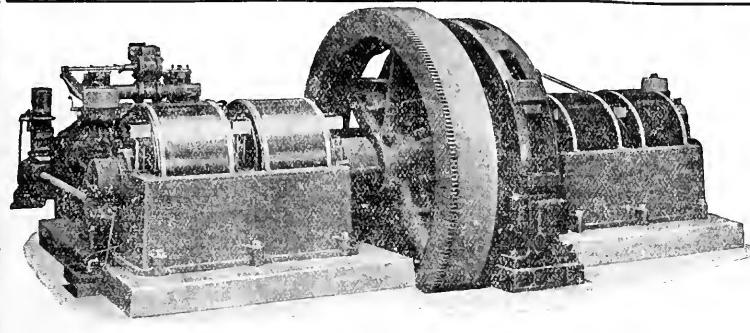
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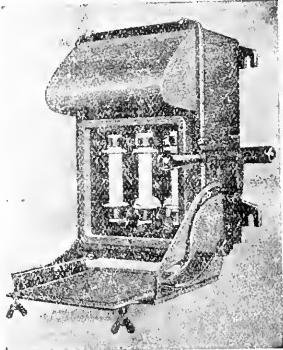
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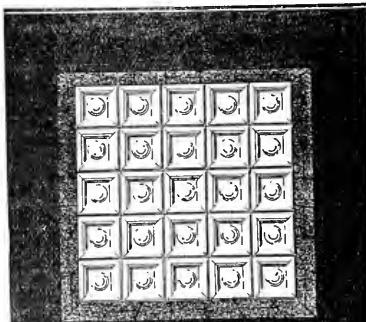
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This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on 31st December, 1912, and to holders of Coupon No. 2, attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st to the 7th January, 1913, both days inclusive.

The Dividend will be payable to South African Registered Shareholders from the Head Office, Johannesburg, and to European Shareholders from the London Office, 1, London Wall Buildings, London Wall, E.C., on or about the 4th February, 1913.

Holders of Share Warrants to Bearer are informed that they will receive payment of the Dividend on presentation of Coupon No. 2, at the London Office of the Company.

Coupons must be left four clear days for examination, and will be payable at any time on or after the 4th February, 1913.

By Order of the Board,

RAND MINES, LTD. (Secretaries).

S. C. STEIL, Joint Secretary.

Head Office, The Corner House,  
Johannesburg, 13th December, 1912. 51168

## Durban Roodepoort Deep, Ltd.

(Incorporated in the Transvaal.)

### DECLARATION OF DIVIDEND No. 7.

**NOTICE IS HEREBY GIVEN** that an Interim Dividend of 5 per cent. (One Shilling per share) has been declared by the Board for the half-year ending 31st December, 1912.

This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on 31st December, 1912, and to holders of Coupon No. 7, attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st to the 7th January, 1913, both days inclusive.

The Dividend will be payable to South African Registered Shareholders from the Head Office, Johannesburg, and to European Shareholders from the London Office, 1, London Wall Buildings, London Wall, E.C., on or about the 4th February, 1913.

Holders of Share Warrants to Bearer are informed that they will receive payment of the Dividend on presentation of Coupon No. 7, at the London Office of the Company.

Coupons must be left four clear days for examination, and will be payable at any time on or after the 4th February, 1913.

By Order of the Board,

RAND MINES, LTD. (Secretaries).

S. C. STEIL, Joint Secretary.

Head Office, The Corner House,  
Johannesburg, 13th December, 1912. 51162

## Rose Deep, Limited.

(Incorporated in the Transvaal.)

### DECLARATION OF DIVIDEND No. 23.

**NOTICE IS HEREBY GIVEN** that an Interim Dividend of 22½ per cent. (Four Shillings and Sixpence per share) has been declared by the Board for the half-year ending 31st December, 1912.

This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on 31st December, 1912, and to holders of Coupon No. 23, attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st to the 7th January, 1913, both days inclusive.

The Dividend will be payable to South African Registered Shareholders from the Head Office, Johannesburg, and to European Shareholders from the London Office, 1, London Wall Buildings, London Wall, E.C., on or about the 4th February, 1913.

Holders of Share Warrants to Bearer are informed that they will receive payment of the Dividend on presentation of Coupon No. 23, at the London Office of the Company, or at the Compagnie Française de Banque et de Mines, 20, Rue Taitbout, Paris.

Coupons must be left four clear days for examination, and will be payable at any time on or after the 4th February, 1913.

By Order of the Board,

RAND MINES, LTD. (Secretaries).

S. C. STEIL, Joint Secretary.

Head Office, The Corner House,  
Johannesburg, 13th December, 1912. 51159

## Geldenhuis Deep, Limited.

(Incorporated in the Transvaal.)

### DECLARATION OF DIVIDEND No. 26.

**NOTICE IS HEREBY GIVEN** that an Interim Dividend of 5 per cent. (One Shilling per share) has been declared by the Board for the half-year ending 31st December, 1912.

This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on 31st December, 1912, and to holders of Coupon No. 26, attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st to the 7th January, 1913, both days inclusive.

The Dividend will be payable to South African Registered Shareholders from the Head Office, Johannesburg, and to European Shareholders from the London Office, 1, London Wall Buildings, London Wall, E.C., on or about the 4th February, 1913.

Holders of Share Warrants to Bearer are informed that they will receive payment of the Dividend on presentation of Coupon No. 26, at the London Office of the Company, or at the Compagnie Française de Banque et de Mines, 20, Rue Taitbout, Paris.

Coupons must be left four clear days for examination, and will be payable at any time on or after the 4th February, 1913.

By Order of the Board,

RAND MINES, LTD. (Secretaries).

S. C. STEIL, Joint Secretary.

Head Office, The Corner House,  
Johannesburg, 13th December, 1912. 51161

## Crown Mines, Limited.

(Incorporated in the Transvaal.)

### DECLARATION OF DIVIDEND No. 23.

**N**O TICE IS HEREBY GIVEN that an Interim Dividend of 55 per cent. (Five Shillings and Sixpence per share) has been declared by the Board for the half-year ending 31st December, 1912.

This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on 31st December, 1912, and to holders of Coupon No. 23, attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st to the 7th January, 1913, both days inclusive.

The Dividend will be payable to South African Registered Shareholders from the Head Office, Johannesburg, and to European Shareholders from the London Office, 1, London Wall Buildings, London Wall, E.C., on or about the 4th February, 1913.

Holders of Share Warrants to Bearer are informed that they will receive payment of the Dividend on presentation of Coupon No. 23 at the London Office of the Company, or at the Compagnie Française de Banque et de Mines, 20, Rue Taitbout, Paris, or at the Banque Internationale de Bruxelles, Brussels.

Coupons must be left four clear days for examination, and will be payable at any time on or after the 4th February, 1913.

By Order of the Board,

RAND MINES, LTD. (Secretaries).

S. C. STEIL, Joint Secretary.

Head Office, The Corner House,  
Johannesburg, 13th December, 1912.

51161

## Modderfontein B Gold Mines, Ltd.

(Incorporated in the Transvaal.)

### DECLARATION OF DIVIDEND No. 1.

**N**O TICE IS HEREBY GIVEN that an Interim Dividend of 20 per cent. (Four Shillings per share) has been declared by the Board for the period ending 31st December, 1912.

This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on 31st December, 1912, and to holders of Coupon No. 1, attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st to the 7th January, 1913, both days inclusive.

The Dividend will be payable to South African Registered Shareholders from the Head Office, Johannesburg, and to European Shareholders from the London Office, 1, London Wall Buildings, London Wall, E.C., on or about the 4th February, 1913.

Holders of Share Warrants to Bearer are informed that they will receive payment of the Dividend on presentation of Coupon No. 1 at the London Office of the Company, or at the Compagnie Française de Banque et de Mines, 20, Rue Taitbout, Paris.

Coupons must be left four clear days for examination, and will be payable at any time on or after the 4th February, 1913.

By Order of the Board,

RAND MINES, LTD. (Secretaries).

S. C. STEIL, Joint Secretary.

Head Office, The Corner House,  
Johannesburg, 13th December, 1912.

51163

## New Modderfontein Gold Mining Co.,

LIMITED.

(Incorporated in the Transvaal.)

### DECLARATION OF DIVIDEND No. 13.

**N**O TICE IS HEREBY GIVEN that an Interim Dividend of 15 per cent. (Twelve Shillings per share) has been declared by the Board for the half-year ending 31st December, 1912.

This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on 31st December, 1912, and to holders of Coupon No. 13, attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st to the 7th January, 1913, both days inclusive.

The Dividend will be payable to South African Registered Shareholders from the Head Office, Johannesburg, and to European Shareholders from the London Office, 1, London Wall Buildings, London Wall, E.C., on or about the 4th February, 1913.

Holders of Share Warrants to Bearer are informed that they will receive payment of the Dividend on presentation of Coupon No. 13 at the London Office of the Company.

Coupons must be left four clear days for examination, and will be payable at any time on or after the 4th February, 1913.

By Order of the Board,

RAND MINES, LTD. (Secretaries).

S. C. STEIL, Joint Secretary.

Head Office, The Corner House,  
Johannesburg, 13th December, 1912.

51164

## City Deep, Limited.

(Incorporated in the Transvaal.)

### DECLARATION OF DIVIDEND No. 1.

**N**O TICE IS HEREBY GIVEN that an Interim Dividend of 12½ per cent. (Two Shillings and Sixpence per share) has been declared by the Board for the period ending 31st December, 1912.

This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on 31st December, 1912, and to holders of Coupon No. 1, attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st to the 7th January, 1913, both days inclusive.

The Dividend will be payable to South African Registered Shareholders from the Head Office, Johannesburg, and to European Shareholders from the London Office, 1, London Wall Buildings, London Wall, E.C., on or about the 4th February, 1913.

Holders of Share Warrants to Bearer are informed that they will receive payment of the Dividend on presentation of Coupon No. 1 at the London Office of the Company, or at the Compagnie Française de Banque et de Mines, 20, Rue Taitbout, Paris.

Coupons must be left four clear days for examination, and will be payable at any time on or after the 4th February, 1913.

By Order of the Board,

RAND MINES, LTD. (Secretaries).

S. C. STEIL, Joint Secretary.

Head Office, The Corner House,  
Johannesburg, 13th December, 1912.

51165

## Village Deep, Limited.

(Incorporated in the Transvaal.)

### DECLARATION OF DIVIDEND No. 9.

**NOTICE IS HEREBY GIVEN** that an Interim Dividend of 10 per cent. (Two Shillings per share) has been declared by the Board for the half-year ending 31st December, 1912.

This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on 31st December, 1912, and to holders of Coupon No. 9, attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st to the 7th January, 1913, both days inclusive.

The Dividend will be payable to South African Registered Shareholders from the Head Office, Johannesburg, and to European Shareholders from the London Office, 1, London Wall Buildings, London Wall, E.C., on or about the 4th February, 1913.

Holders of Share Warrants to Bearer are informed that they will receive payment of the Dividend on presentation of Coupon No. 9, at the London Office of the Company, or at the Compagnie Française de Banque et de Mines, 20, Rue Taitbout, Paris.

Coupons must be left four clear days for examination, and will be payable at any time on or after the 4th February, 1913.

By Order of the Board,

RAND MINES, LTD. (Secretaries).

S. C. STEIL, Joint Secretary.

Head Office, The Corner House,  
Johannesburg, 13th December, 1912. 51166

## Robinson Gold Mining Co., Ltd.

(Incorporated in the Transvaal.)

### DECLARATION OF DIVIDEND No. 41.

**NOTICE IS HEREBY GIVEN** that an Interim Dividend of 10 per cent. (Ten Shillings per share) has been declared by the Board for the half-year ending 31st December, 1912.

This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on 31st December, 1912, and to holders of Coupon No. 36, attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st to the 7th January, 1913, both days inclusive.

The Dividend will be payable to South African Registered Shareholders from the Head Office, Johannesburg, and to European Shareholders from the London Office, 1, London Wall Buildings, London Wall, E.C., on or about the 4th February, 1913.

Holders of Share Warrants to Bearer are informed that they will receive payment of the Dividend on presentation of Coupon No. 36, at the London Office of the Company.

Coupons must be left four clear days for examination, and will be payable at any time on or after the 4th February, 1913.

By Order of the Board,

RAND MINES, LTD. (Secretaries).

S. C. STEIL, Joint Secretary.

Head Office, The Corner House,  
Johannesburg, 13th December, 1912. 51167

## The Village Main Reef Gold Mining

COMPANY, LIMITED.

(INCORPORATED IN ENGLAND.)

### DIVIDEND No. 24.

**NOTICE IS HEREBY GIVEN** that a Dividend of Thirteen and five per cent. (Seven shillings per share) has been declared, payable to all Shareholders registered in the Books of the Company on the 31st December, 1912.

The local Transfer Books of the Company will be closed from the 1st to the 6th January, 1913, both days inclusive.

Dividend Warrants in favour of South African Registered Shareholders will be payable in Johannesburg on or about 31st January, 1913.

By Order of the Local Board of Directors,

RAND MINES, LIMITED,

*Local Secretaries.*

S. C. STEIL, *Joint Secretary.*

The Corner House, Johannesburg Transvaal,  
14th December, 1912.

51220

## CROWN MINES, LIMITED.

(Incorporated in the Transvaal.)

### 5 per cent. First Mortgage Debentures.

**NOTICE IS HEREBY GIVEN** that the interest due on the 1st JANUARY, 1913, will be paid against presentation of Coupon No. 1 at the places and within the times following:—

IN JOHANNESBURG.—At the Head Transfer Office of the Company, 6th Floor, The Corner House.

IN LONDON.—At the Office of the Company, No. 1, London Wall Buildings, E.C.

Listing forms duly completed, accompanied by Coupons, must be left FOUR CLEAR DAYS for examination and may be presented at the Head Transfer Office, any day (SATURDAYS EXCEPTED) after 26th DECEMBER, 1912, between the hours of 11 and 1 and 2 and 4.

Listing forms may be had on application to the Head Transfer Office, 6th Floor, The Corner House, Johannesburg.

By order of the Board,

RAND MINES, LIMITED,  
*Secretaries.*

S. C. STEIL, *Joint Secretary.*

Head Office:  
The Corner House, Johannesburg.  
18th December, 1912.

51402

## Transvaal Coal Trust Company, Ltd.

(INCORPORATED IN THE TRANSVAAL.)

### DECLARATION OF DIVIDEND No. 26.

**NOTICE IS HEREBY GIVEN** that an Interim Dividend of 12½ (Twelve and one-half) per centum, equal to 2s. 6d. (Two shillings and sixpence) per share, has been declared by the Board for the half-year ending 31st December, 1912.

This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on the 31st December, 1912, and to holders of Coupon No. 26 attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st to the 6th January, 1913, both days inclusive.

The Dividend Warrants will be issued as soon as possible after the receipt of the London Transfer Returns.

By Order of the Board,

THE CONSOLIDATED MINES SELECTION COMPANY, LTD (ENG.),  
*Secretaries.*

*per A. F. LYALL.*

Postal Address: Box 888.

Head Office: "The Corner House,"

Johannesburg, December, 1912.

51205

## Ginsberg Gold Mining Company, Ltd.

(INCORPORATED IN THE TRANSVAAL.)

### NOTICE TO SHAREHOLDERS.

#### DIVIDEND No. 19.

NOTICE IS HEREBY GIVEN that a Dividend of SEVENTEEN AND ONE-HALF PER CENT. (three shillings and sixpence per share) has been declared, payable to Shareholders registered at 31st December, 1912, as soon as the necessary returns are received from the London Office.

The Transfer Books will be closed from the 1st to the 8th January, 1913, both days inclusive.

By order of the Board,  
JOHANNESBURG CONSOLIDATED INVESTMENT COMPANY, LTD.,  
*Secretaries.*  
*per FRANK HALL.*

Head Office, Consolidated Building,  
Johannesburg, 17th December, 1912. 51341

## Glencairn Main Reef G.M. Co., Ltd.

(INCORPORATED IN THE TRANSVAAL.)

### NOTICE TO SHAREHOLDERS.

#### DIVIDEND No. 15.

NOTICE IS HEREBY GIVEN that a Dividend of FIVE PER CENT. (one shilling per share) has been declared, payable to Shareholders registered at 31st December, 1912, as soon as the necessary returns are received from the London Office.

The Transfer Books will be closed from the 1st to the 8th January, 1913, both days inclusive.

By order of the Board,  
JOHANNESBURG CONSOLIDATED INVESTMENT COMPANY, LTD.,  
*Secretaries.*  
*per FRANK HALL.*

Head Office, Consolidated Building,  
Johannesburg, 17th December, 1912. 51342

## New Primrose Gold Mining Co., Ltd.

(INCORPORATED IN THE TRANSVAAL.)

### NOTICE TO SHAREHOLDERS.

#### DIVIDEND No. 39.

NOTICE IS HEREBY GIVEN that a Dividend of THIRTY PER CENT. (six shillings per share) has been declared, payable to Shareholders registered at 31st December, 1912, as soon as the necessary returns are received from the London Office.

The Transfer Books will be closed from the 1st to the 8th January, 1913, both days inclusive.

By order of the Board,  
JOHANNESBURG CONSOLIDATED INVESTMENT COMPANY, LTD.,  
*Secretaries.*  
*per FRANK HALL.*

Head Office, Consolidated Building,  
Johannesburg, 17th December, 1912. 51343

## New Rietfontein Estate Gold Mines, Limited.

(INCORPORATED IN THE TRANSVAAL.)

### NOTICE TO SHAREHOLDERS.

#### DIVIDEND No. 12.

NOTICE IS HEREBY GIVEN that a Dividend of SEVEN AND ONE-HALF PER CENT. (one shilling and sixpence per share) has been declared, payable to Shareholders registered at 31st December, 1912, as soon as the necessary returns are received from the London Office.

The Transfer Books will be closed from the 1st to the 8th January, 1913, both days inclusive.

By order of the Board,  
JOHANNESBURG CONSOLIDATED INVESTMENT COMPANY, LTD.,  
*Secretaries.*  
*per FRANK HALL.*

Head Office, Consolidated Building,  
Johannesburg, 17th December, 1912. 51344

## New Unified Main Reef G.M. Co., Ltd.

(INCORPORATED IN THE TRANSVAAL.)

### NOTICE TO SHAREHOLDERS.

#### DIVIDEND No. 9.

NOTICE IS HEREBY GIVEN that a Dividend of TEN PER CENT. (two shillings per share) has been declared, payable to Shareholders registered at 31st December, 1912, as soon as the necessary returns are received from the London Office.

The Transfer Books will be closed from the 1st to the 8th January, 1913, both days inclusive.

By order of the Board,  
JOHANNESBURG CONSOLIDATED INVESTMENT COMPANY, LTD.,  
*Secretaries.*  
*per FRANK HALL.*

Head Office, Consolidated Building,  
Johannesburg, 17th December, 1912. 51345

## Witwatersrand Gold Mining Co., Ltd.

(INCORPORATED IN THE TRANSVAAL.)

### NOTICE TO SHAREHOLDERS.

#### DIVIDEND No. 17.

NOTICE IS HEREBY GIVEN that a Dividend of SEVENTEEN AND ONE HALF PER CENT. (three shillings and sixpence per share) has been declared, payable to Shareholders registered at 31st December, 1912, as soon as the necessary returns are received from the London Office.

The Transfer Books will be closed from the 1st to the 8th January, 1913, both days inclusive.

By order of the Board,  
JOHANNESBURG CONSOLIDATED INVESTMENT COMPANY, LTD.,  
*Secretaries.*  
*per FRANK HALL.*

Head Office, Consolidated Building,  
Johannesburg, 17th December, 1912. 51346

**Brakpan Mines, Limited.**

(INCORPORATED IN THE TRANSVAAL.)

**DECLARATION OF DIVIDEND No. 2.**

NOTICE IS HEREBY GIVEN that a Dividend of 25 (Twenty-five) per centum, equal to 5s. (Five shillings) per share, has been declared by the Board for the half-year ending 31st December, 1912.

This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on the 31st December, 1912, and to holders of Coupon No. 2 attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st to the 6th January, 1913, both days inclusive.

The Dividend Warrants will be issued as soon as possible after the receipt of the London Transfer Returns.

By Order of the Board,

THE CONSOLIDATED MINES SELECTION COMPANY, LTD (ENG.),  
Secretaries.

per A. F. LYALL.

Postal Address: Box 6249.

Head Office: "The Corner House,"  
Johannesburg, 14th December, 1912.

51204

**The New Era Consolidated, Limited.**

(INCORPORATED IN THE TRANSVAAL.)

**DECLARATION OF DIVIDEND No. 4.**

NOTICE IS HEREBY GIVEN that a Dividend of 10 (Ten) per centum, equal to 6d. (Six pence) per share, has been declared by the Board for the year ending 31st December, 1912.

This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on the 31st December, 1912.

The Transfer Books of the Company will be closed from the 1st to the 6th January, 1913, both days inclusive.

The Dividend Warrants will be issued as soon as possible after the receipt of the London Transfer Returns.

By Order of the Board,

THE CONSOLIDATED MINES SELECTION COMPANY, LTD (ENG.),  
Secretaries.

per A. F. LYALL.

Postal Address: Box 1128.

Head Office: "The Corner House,"  
Johannesburg, 14th December, 1912.

51203

**The Natal Navigation Collieries and Estate Company, Limited.****Notice of Dividend (No. 20).**

SHAREHOLDERS are hereby notified that the Directors have declared a Dividend of three and three-quarters per cent. (ninepence per share), being at the rate of 7½ per cent (seven and a half per cent) per annum, payable to all shareholders registered as such in the company's books on the 31st DECEMBER, 1912.

Dividend warrants will be issued as soon as possible after receipt of returns from London Office.

The transfer books of the company will be closed from 1st January to 8th January, 1913, both days inclusive.

By Order of the Board,

J. T. JONES, Secretary.

28. Natal Bank Chambers,

Durban. December 14th 1912.

51845

**Kleinfontein Estates & Township, Ltd.**

(Incorporated in the Transvaal.)

**DIVIDEND No. 18.**

NOTICE is hereby given that an Interim Dividend of 7½ per cent. (i.e., 1s. 6d. per share) has been declared by the Board of Directors, payable to all Shareholders registered in the Books of the Company on the 31st December, 1912.

Dividend Warrants will be posted to South African Shareholders on or about the 15th January, 1913.

By Order of the Board,

L. S. RAYMOND,

Assistant Secretary.

National Bank Buildings, Simmonds Street,  
Johannesburg, 13th December, 1912.

51233

**Anglo-French (Transvaal) Navigation Coal Estates, Limited.**

(INCORPORATED IN THE TRANSVAAL.)

**Announcement of Declaration of Dividend No. 4, on 120,000 Cumulative Preference Shares.**

NOTICE IS HEREBY GIVEN that an Interim Dividend of 6½ per cent. (equal to 1s. 3d. per share) has been declared by the Board of Directors, payable to all holders of Preference Shares registered as such in the Books of the Company on the 31st day of December, 1912, being a payment on account of the 7% Cumulative Preference Dividend.

Warrants will be posted to South African Holders of Preference Shares on or about the 15th January, 1913.

By Order of the Board,

L. S. RAYMOND,

Acting Secretary.

Head Office.

National Bank Buildings,  
Simmonds Street, Johannesburg,  
13th December, 1912.

51232

**May Consolidated Gold Mining Co.,**

LIMITED.

(REGISTERED UNDER THE LIMITED LIABILITY LAWS OF THE TRANSVAAL.)

**Declaration of Dividend No. 29.**

NOTICE IS HEREBY GIVEN that a Dividend of 10 per cent. (Two shillings per share) has this day been declared, payable to all Shareholders registered in the Books of the Company at the close of business on Tuesday, the 31st December, 1912, and to Holders of Coupon No. 29 attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st January, 1913, to the 7th January, 1913, both days inclusive, and Dividend Warrants will be issued to European Shareholders from the London Office, and to South African Shareholders from the Head Office, Johannesburg, as soon as possible after receipt of the Transfer Returns from the respective Offices.

Holders of Share Warrants to Bearer are hereby informed that they will receive payment on and after Saturday, the 1st February, 1913, of the Dividend of 2s. per share, after surrender of Coupon No. 29, at either of the undermentioned Offices:

Head Office: Silesia Buildings, Main Street, Johannesburg.

London Office: Pinner's Hall, Austin Friars, E.C.

Berlin Agency: 17-20 Kanonier Strasse, W. 8.

Paris Agency: 25 Rue de Clichy.

Coupons must be left four clear days for examination, and may be presented after the 27th January, 1913. Any Coupon or Coupons, however, presented for payment at the Berlin Agency or the Johannesburg Office must be accompanied by an Affidavit declaring the full name and residence of the owner of the Share Warrant or Warrants from which such Coupon or Coupons have been detached, and the Company, before paying the amount of such Coupon or Coupons, shall be entitled to deduct therefrom the amount recoverable in respect of any Government Taxes or Imposts which would have been recovered had such Coupon or Coupons been presented at the Company's Office situated in the State or Country in which the said owner resides.

Forms of Affidavit and Listing Forms can be obtained on application at the Company's Head Office, Johannesburg, and at the Berlin Agency.

By order of the Board of Directors,

W. M. TUDHOPE, Secretary.

Head Office:

Silesia Buildings, Main Street,  
P.O. Box 166, Johannesburg,  
17th December, 1912.

51348

TO OBTAIN A STEADY  
THE HIGHEST FOOT-  
**"S"** BRAND

CLEAR LIGHT AND  
ACE OF GAS, USE  
**CARBIDE.**

Packed in Steel Drums

**PACKAGES:**  
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28 lbs., Tins.  
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Drums.

with Screw Lids.

See that "S" is embossed on  
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**CHAS. BUTTERS & CO., LTD.**

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## Notes and News.

The New Primrose Company has just started up its tube mill plant. The two tubes are each of **Tube Mills at the** standard size, 22 ft. 6 in. by 6 ft., and this **New Primrose**, addition to the company's equipment should make itself felt in the returns during the next month or two. The putting in of tube mills at this fine old property affords an interesting commentary on the manner in which the New Primrose is opening up. A few years ago the mine was believed to have but a limited life, in fact estimates framed just after the conclusion of the war gave one to suppose that by the end of the current year the mine practically would be exhausted. Recently developments have been so eminently satisfactory that the management decided to augment and modernise the reduction plant and there appears to be every prospect of the company contributing a substantial quota to the dividend list for a number of years to come. The company is now earning profits at the rate of about £220,000 per annum, and shareholders will have noted with pleasure that the dividend declared within the past two days is 5 per cent. higher than the quite satisfactory rate announced in June last.

\* \* \* \*

A large amount of work has been carried out during the past two months at the Van Ryn Deep, **Van Ryn Deep**, although from a casual inspection one position had advanced but little since we last directed attention to this mine. The reason for this is that for the past few weeks such "spade and shovel" work as excavations has had to be carried out. Excavations and foundations now are practically completed and a start has been made on erection of the mill building. The next couple of months should witness a marked advancement, and everything points to the property entering the productive stage about the middle of next year as has been officially anticipated.

\* \* \* \*

A Nairobi correspondent informs us that an extensive and seemingly highly promising discovery of **Mica in British East Africa.** mica (presumably muscovite) has been made in the Embu district of the East African Protectorate. The Government post of Embu lies distant from Nairobi about 80 miles in a north-westerly direction and amongst the Kenia foothills. The country is exceedingly mountainous and the difficulties of transport would prove a severe handicap in its earlier stages to the establishment of any branch of the mining industry in this part of the Protectorate. It is, however, understood that the Government will do its best to encourage this prospective new industry and that the discoverers have been granted a large area in which to prosecute their exploratory work.

\* \* \* \*

The annual meeting of the Breyten Collieries was held yesterday, when an eminently satisfactory statement was presented for **Breyten Collieries.** the consideration of shareholders. More gratifying than any speech, no matter how eloquent and hopeful, is the declaration of a first dividend of 10 per cent. payable to all shareholders registered in the books of the company at the end of the year. The balance sheet shows that during the year ended with October last a profit of £24,742 was earned and the outlook at the property is such that shareholders can with confidence look forward to the distribution of further and probably larger amounts in the near future. Mr. Craig, the Acting Superintending Engineer, in his report writes: "Coal-winning has been confined to Nos. 1, 2 and 3 Mines, from which the coal is brought to a central screening and sorting plant by means of loco-traction and endless haulages. The coal won is of consistently good quality, and being everywhere clean and free from shale, is easily and economically mined. A fourth adit is being opened up to work the area between Nos. 1 and 2 Mines, and has exposed a seam of good coal. A fifth adit

will soon be started to the south of No. 3 Adit. The additional working places it will provide will probably not be needed for some time, but it is felt that it is best to have them ready in case of accident in any of the other adits. The necessary expenditure has been authorised for the extension of your plant to a capacity of 55,000 tons per month, and it is expected that the additional plant will be in operation in May next. In a recent issue we dealt at length and in detail with the position at this highly promising property.

\* \* \* \* \*

It is reported that the shaft being sunk on this property has recently passed through the dyke and is now below the water zone which handicapped the sinking operations. At October 31 the shaft was down 1,505 feet. The cost of

sinking was £46 4s. 5d. per foot in August, against £57 per foot in the year to June 30 last. Additional funds are required and negotiations are proceeding between this company and the Henderson Company. Though the arrangements are not yet complete the chairman of the Daggafontein Company, at the meeting held recently in London, said he entertained little doubt that terms satisfactory to both parties would be come to.

\* \* \* \* \*

We take the opportunity of directing attention to the advertisements which appear in this issue dealing with the Moore and Butters' Slime Filters. Without wishing to express any opinion upon the judgment referred to in the Moore Filter Company's announcement, we feel sure that the statements of the two companies, who claim to hold patent rights, are of importance, each in their own way, to all metallurgists and boards of directors.

\* \* \* \* \*

At the Chamber of Mines meeting on Thursday Mr. Schumacher made an important announcement regarding the progress of the Miners' Housing Scheme. He said that two days ago they had received final permission from the Government to start to build a number of houses on the ground belonging to the City Deep, and they expected in the course of the next few days to let out tenders for forty houses, of which a number would be built for the men employed on the City Deep, and a further number would be financed by the Rand Mines for the men in the employ of the companies connected with the group. The houses in the first instance would belong to the company who built them, the City Deep, and would remain its property until the company was in a position to give title, which, of course, required legislation. As regards the ground belonging to the Geldenhuus Deep, on the extension of the Bezuidenhout Valley, which, as they know, was acquired by amalgamation some little while ago, they had not as yet made up their minds definitely on the course they should follow.

\* \* \* \* \*

Speaking at the Daggafontein meeting in London, Mr. W. Bryson Butler, Chairman of the company, said: "I would just like to refer you to a statement which appears in the last *South African Mining Journal* received in this country of the ore reserves at the end of last year in the various developing and producing mines of the further East. It shows that in nine mines in that area these amounted to no less than 12,600,000 tons, worth, roughly, 30s. per ton, equal to £18,900,000, and, of course, in this no account is taken of Government Areas or Medder Deep. In regard to the developments to be expected on the shaft-sinking properties in the district, I would like you to bear in mind that the real test of value is the average result obtained over given distances of reef, and not the results of any one particular point."

\* \* \* \* \*

The gain in native labour for the month of November over the preceding month has been 4,163 for all the mines that are members of the Witwatersrand Native Labour Association, excluding outside districts. This shows a gain of 4,823 for the gold mines, while a loss of 36 and 621

respectively for the coal and diamond mines had to be registered. The figure of 210,520 for all mines, which represents the present labour strength, compares with that of 194,850 for the 30th of November last year, thus showing an increase in twelve months of 15,670 natives. The number of natives leaving for their homes at the end of every month still remains high, being a little over 10 per cent. of the number of natives employed. The percentage of old mine boys among the gangs coming from the East Coast still continues to be high and this together with the long average terms of service is a very satisfactory feature of the East Coast supply.

\* \* \* \* \*

The reduction in the dividend of the East Rand Gold, Coal and Estate Co., Ltd., for the current year has been caused principally and **Underground Costs.** through the dislocation in the coal trade which was brought about by the alteration in the railway rates in August last, the new rates operating to such an extent against the Springs Collieries that sales have become very restricted with a corresponding reduction in profits. New plant has been installed during the year, and this has had to be provided for and the Board have also in view the desirability of maintaining the strong cash position of the company; it is hoped, however, that with increased profits from the estate, dividends in the future will be at the same rate as the first two declarations.

\* \* \* \* \*

Those who are under the impression that mining costs, however much they may vary between one mine and another, are nevertheless fairly uniform in the various parts of the same mine, will be interested in the following

little tabular statement which was read by Mr. G. Hildick Smith in a reply to the discussion upon his paper, "A System of Keeping Underground Costs and Records." The figures represent the costs for stores and timber only on seven different sections of a mine:—

	Cost per ton Mined.		
Tonnage.	Stores.	Timber.	Total.
1	8.197	9.73	2.17
2	6.976	11.40	1.31
3	6.513	15.85	4.55
4	6.055	24.30	0.85
5	5.841	13.50	2.11
6	5.162	23.74	0.75
7	4.017	23.12	3.86
			26.98

The section which correspond with one another in so far as the class of work going on is concerned, are numbers 1, 2, 3, 5 and 7, numbers 4 and 6 are those in which most of the development is being done.

\* \* \* \* \*

As Mr. Hildick Smith very truly remarked in the discussion upon his paper:—"Unless the underground officials can see at the end of each month the result of their work in the various sections of the mine of which they

are in charge, they will not be so careful in marking time tickets and requisitions as they otherwise would be." He maintains, reasonably enough, "that with the introduction of the position of underground managers consequent on the amalgamation of mines in the last few years, it is important that underground costs should be more carefully segregated than they are at present, so that the work on all sections of a large mine can be closely followed by the official who is responsible for the work done underground. If all underground officials from shift-bosses upwards are circularised every month with the cost figures relating to the work each is doing, the chief difficulty of enlisting the co-operation of the various officials is at once greatly minimised, and a greater feeling of interest in the work going on is created." Although one may not agree with all of Mr. Hildick Smith's suggestions, there are probably few who will not subscribe to the opinion that such papers as that contributed by him to the Chemical, Metallurgical and Mining Society are far too few in number.

The directors of the Daggafontein Prospecting Syndicate, Limited, in presenting the fourteenth annual report on the syndicate's affairs for the year ended June 30 last, together with the accounts and balance sheet, state that the profit and loss account shows a loss for the year of £79, making the balance now at the credit of profit and loss £3,428. During the year the No. 1 shaft of the Daggafontein Gold Mining Company was sunk to a depth of 1,158 ft.—progress still being retarded owing to continued heavy water and the nature of the strata. Since the close of the year, the rate of progress is showing an improvement (October, 97 ft.), and on October 31 a depth of 1,505 ft was reached. The formation is now reported as being excellent drilling ground and free from water. The company has taken a participation in a syndicate formed to operate in Nigeria, and through it is now interested in some promising discoveries of tin in German South-West Africa. These discoveries have been reported on by Dr. E. Jorissen, of Johannesburg, the well-known mining engineer, as fully warranting such exploratory work as the syndicate is associated with.

\* \* \* \*

Rumour has it that the Rhodesian Government and the Railway authorities are considering the construction of a branch line from Nyamandhlava to the Lonely mine in the Bubi district. Such a line not only would prove of tremendous benefit to the Lonely Mine, which is situated between 50 and 60 miles to the north of Bulawayo but would also open up a rich agricultural district, and furthermore should stimulate interest and activity in the Bubi district, in which a number of more or less promising discoveries have been made during the past year or two. Rhodesian mine owners and workers appear to have little to complain about in regard to Railway facilities. The main trunk line passes through the most important mineral belt of the country and during the past year or two mineral discoveries have prompted the Railway authorities to construct two new branch lines—the one from Salisbury through the Kimberley Reefs district to the Shamva, and the other a much shorter line from Gatooma to the Eiffel Flats. It is probable, too, that at a not far distant date a railway will be constructed from the Eldorado terminus to some point near the Kafue River, which would of course greatly facilitate transport for the base metal concerns operating in North-Western Rhodesia and the Katanga. As to the rumoured Nyamandhlava-Lonely line, this should not be a long or expensive one, but it would certainly attain to a position of much revenue earning importance in a short space of time.

\* \* \* \*

At the end of an interesting review of the subject of technical training for surface mine workers, Professor Stanley at a recent meeting of the Chemical, Metallurgical and Mining Society, having naturally insisted upon the importance of proper training in all branches of the surface workers occupation, added some remarks which touch the very root of the matter. "In conclusion," he observed, "I will deal very briefly with the remaining point of view, that of the onlooker, who may after all have growing sons. Many opinions are possible. Some look upon the 'all white' reduction employees idea as another instance of the creation of 'blind alley' occupations; others are glad to see an additional field of employment for white youths, and providing no illusions are held as to the possibilities held out, this is the saner view; but it must be remembered that only a comparative few can rise to responsible positions; the rest, if they have ambition, must meet with disappointment, for the pay, although exceptionally generous for untrained men at the start is not high after years of drudgery, and certainly not what an educated white youth should expect to attain to from a logical following up of his education and scarcely even equivalent to that of an artisan."

## TOPICS OF THE WEEK.

### THE OUTLOOK FOR DIAMONDS.

PUBLIC interest in the speech made by the Chairman of De Beers at the annual meeting of the Company last week centres mainly in those portions dealing with the state of the diamond market and the policy of the big producers. Of the former, most glowing accounts were given, both by the Chairman and Sir David Harris. The latter, who has recently returned from Europe, declared that the market for the stones was quite unaffected by the Balkan War. The Chairman, in describing the prospects of De Beers, was likewise outlining the probable future for all the producers, big and little. In this connection he said: "We have now gone through six months of the current financial year, and I am pleased to be able to tell you that the results of our working during those six months have been slightly better than those of the last six months of the preceding year. We have good reason to hope that the ensuing six months will show results at least equally good. There are, as you know, many contingencies to be faced. We have heard a good deal lately about the troubles in Europe. There has naturally been some amount of uncertainty as to what the outcome might be. The latter indications have pointed towards a peaceful solution of these problems, and one sincerely trusts that the preservation of peace may be ensured. At the same time, these are contingencies the result of which in the nature of things we cannot foresee. When the issue is one of peace or war, there is no need to point out that should there unhappily at any time come a breach of the peace amongst the nations of Europe, it could not but have an adverse effect upon the diamond industry, and the affairs of the Company in which we are concerned. I do not wish to be thought a prophet of evil in saying this. All the information we have leads us, as I have already said, to hope and believe that there is at present no serious likelihood of the nations of Europe being so foolish as to fly at one another's throats, but that they will find some reasonable and satisfactory method of adjusting the questions at issue without the arbitrament of war. Assuming, then, that the affairs of the world in general continue to proceed normally, we have good reason to believe that our own affairs during the remainder of the current financial year will be at least equally as successful as those of the six months already past." This will be cheerful news for the shareholders in diamond ventures generally, for De Beers may be trusted to be thoroughly well informed regarding the situation.

On the much-discussed relations between De Beers, the Government and other producers, little new light was thrown. In pursuance of the policy of restricting production in order to uphold prices, it was admitted that De Beers had acquired interests in other and poorer mines. Regarding the purchase of the Voorspoed, it was pointed out that the mine had been working for years, and had not paid any profit on the money invested in it. "There was this contingency to be faced," said the Chairman, "that if the mine became, financially speaking, *in extremis*, some people might have been foolish enough to find a lot of money for the purpose of continuing its working, and throwing its diamonds on the market to, not only our detriment, but the detriment of every other diamond producer, making it increasingly difficult to maintain prices at the level we desire; or, in other words, compelling us to pursue our policy of restricting production to a greater degree than would otherwise be required." Mr. Oats proceeded to vindicate the policy of De Beers in this direction. "It is in the interests of other

diamond producers in this country," he said, "as well as ourselves, that diamonds should not be produced at a loss, and that unless they can be produced at a profit they should be allowed to remain in the ground until such time as this can be done. De Beers Company no longer contributes 70, 80, or 90 per cent. of the total number of carats produced. We have to take a more modest position, and content ourselves with saying that so far as the total output in carats is concerned we do not produce half. But the benefit of this restriction is felt no less by our competitors than by ourselves. Some shareholders may ask why we should take a course from which our competitors reap a share of the benefit, but if we know that De Beers Company gains on the balance by our so doing—and as directors we have no doubt about that—then it is clearly the policy which we ought to adopt. To take the opposite course, and pursue a policy of trying to hurt our competitors, would be no satisfaction at all to the De Beers Board, nor would the best interests of the company be served thereby. What the De Beers Board want to do is to uphold the diamond market by restricting production to the limits of what the market will take, and I think they are quite justified in, if necessary, paying cash to reduce the output of poorer properties, and producing as much more as the market will take from their own mines." There is a notable absence of bitterness or reproach in the references made by Mr. Oats to the Premier; and this serves to confirm the belief in a working agreement having been arrived at between the big producers. The wisdom of such an understanding cannot be questioned, and it is to be hoped that it will grow and strengthen as time goes on.

### APPRENTICES ON MINES.

IMPORTANT references were made to the question of apprentices on mines at the monthly meeting of the Chamber of Mines on Thursday. Both the President and Mr. Schumacher dealt with it, and too much publicity can hardly be given to the subject. It will be remembered that the organiser of Technical Education in the Transvaal recently intimated to the Chamber the concession made by the mining companies of crediting with two years towards their five years' apprenticeship such apprentices as have satisfactorily completed the three and a half years' course at one of the Transvaal trade schools. This suggestion came from the Association of Mine Managers, and received the approval of the Executive Committee of the Chamber of Mines. Since the correspondence passed on this subject, the governing body of the Johannesburg Trades School has taken exception to the principle of two years being taken as an equivalent of the three and a half years, on the ground that this question can only be determined after the results of the three years' course in the Trades School have been ascertained. The Executive of the Chamber is again in communication with the Association of Mine Managers in regard to the matter, and it is to be hoped that it will be soon satisfactorily settled. At the meeting on Thursday Mr. Elkan called attention to a passage of the Labour Department's report for November, in which it is stated "that the Government Miners' Training School at the Wolhuter Gold Mines has now got the full complement of apprentices, but applications are still considered as the more advanced apprentices are receiving higher instruction and experience on the Wolhuter and other mines than can be gained in that part of the Wolhuter set apart for the apprentice. The apprentices are showing decided improvement and will certainly have no

difficulty in finding employment when their apprenticeship is finished." This statement is very satisfactory, particularly as coming from an official source, and can only have beneficial effect. "I trust," said Mr. Elkan, "that we will not again have occasion as we had in the past to complain that the youths of South Africa are not taking advantage of the opportunities offered to learn mining in all its details in a thorough manner. It has been stated so repeatedly from this place that the mines and those directing them are but too anxious to teach the youths of South Africa mining in all its departments that there really ought not to be any need for my repeating it once again. All I can say is 'Let them all come, the more the merrier,' and they can be assured of a welcome and of thorough and sound training, enabling them afterwards to find good and remunerative employment."

On the same occasion Mr. Raymond W. Schumacher said he would like to confirm what had fallen from the lips of the Chairman in regard to the importance of the training of white youths in the workshops on the mines. They had realised the necessity for some system of apprenticeship for a number of years and sincerely hoped that the system would come to be adopted on all mines. The point was that if the white youths did not come forward and undergo a thorough system of training it was possible that their places would be taken by others in the future. During his recent stay in the Cape Peninsula he was informed that there were more coloured youths undergoing apprenticeship in the Cape Province than white youths. No one could blame the coloured youths or their parents. He thought they were acting very wisely and very rightly. He added that the moral for the white parents and white youths and all of them was very apparent. From these remarks it is clear that the leaders of the industry are fully alive to the importance of technical education and are prepared to do their duty by the country and by the educational authorities in forwarding it.

### THE MINING TAXATION ACT.

At the last meeting of the Chamber of Mines Mr. Elkan, the President, made a reference to the taxation cases of the Nourse Mines which were dealt with by the Court recently. He informed the Chamber that a communication had been received by the mine from the Commissioner of Inland Revenue to the effect that the latter accepted the judgment. It will be remembered that these cases were briefly alluded to in our recent articles on the question of "Mine Taxation in the Transvaal," which reviewed certain aspects of the subject, and have, we are gratified to learn, given occasion for considerable discussion in mining circles. The fact that the Commissioner of Inland Revenue has accepted the finding of the Court may mean very little or a very great deal. If his letter is merely intended to indicate that he has no intention of carrying the particular matters further the news is not of much interest to any except those immediately concerned in the cases referred to. It, on the other hand, the principles involved in the two judgments have been accepted, as well as the actual findings, we have an admission that only the literal sense of the Taxation Act is to be the guide of the Department in all future proceedings. This attitude would doubtless facilitate the position as between the mines and the Treasury immensely, though it would possibly be inconsistent with the intention of those who conceived the Act as a measure for taxing purposes.

## THE INDUSTRY IN 1912.

### A Generally Improved Position—Higher Dividends and Better Working Conditions.

It is at least informative and generally productive of considerable encouragement occasionally to take stock of the industry; to see how the position in regard to development stands and to compare outputs, profits and dividends with announcements under these headings at different periods. The present appears a good opportunity for a brief assessment of the industry. The year is drawing to a close and without detracting from the value of a statistical review of 1912 on the Witwatersrand which we propose to attempt in our next issue a few facts as to the general position obtaining to-day should prove of much interest. Probably the outstanding feature which calls for comment is the improvement that has taken place in profit-earning. The profits recorded by the controlling groups aggregated £900,000 in January; in October they amounted to £1,056,246; and in November to £1,040,311. This very satisfactory advance is reflected in the dividends declared which are given in a list brought up to the time of going to press and contained elsewhere in this issue.

#### IMPROVED DIVIDENDS.

Very little study of this list of distributors is required to convince one that the pessimistic utterances made at different times of the year as to the early demise of the Main Reef series were quite unfounded. No one who has a proper grasp of the position will for a moment assert that the Rand is losing its position of pre-eminence amongst the world's leading gold fields, nor that these properties are not still the investments *par excellence* of the gold mining industry. In a few instances a smaller distribution is announced, but the largest mines have maintained their rates of distribution and such declines as have to be recorded are more than counterbalanced by the improved declarations of what may be termed the newer mines, such as the Village Deep, and by older properties, such as the New Primrose, as well. In addition there has been a very welcome augmentation of the list from mines which only recently have commenced crushing and have declared their first dividends during the past year. Under this latter heading fall the Modder B., City Deep, Brakpan Mines and Bantjes Consolidated, each of which distribute substantial sums amongst shareholders. Again, it is satisfactory to find companies which have been absentees from the dividend list for some time again announcing dividends. Particularly gratifying in this connection is the announcement of the New Rietfontein—a mine which was in the doldrums for a considerable time and which now appears successfully to have turned the corner.

#### THE UPS AND DOWNS OF MINING.

It has been the history of mining on the Rand as it has been the history of mining in every well-established field that the fortunes of different sections of the Reef and of

different mines vary. For all the remarkable uniformity of gold contents the blanket mines have their poor patches as well as their rich zones, and in mining as in every other branch of commercial activity there are times when everything seems to go wrong just as there are times when every new development face is in good ore and every little labour-saving device acts admirably. There are at the time of writing less than half a dozen properties along the Main Reef series where the position is really disappointing. It cannot be denied that at the Gildenhuys Deep, the Simmer Deep, the Roodepoort United Main Reef, and the Lancaster affairs are unsatisfactory. And yet in twelve months' time the positions of these ventures may improve beyond the most sanguine hopes. As to the other mines shareholders are to be congratulated on the attainment of stability and soundness such as has probably never before been attained in the history of this industry. The large amalgamations are fully justifying themselves, there is apparently going to be no sensible contraction of output and profit on the Central Rand for several years to come, on the Further East Rand the productive mines have excelled themselves, and on the Western limb Randfontein with its enormous reduction plants has advanced its outputs and profits to an almost unexpected degree of magnificence. Turning from productive achievements to the exploitation of areas which are to constitute dividend earning sections of the near future the splendid results secured on the Further East Witwatersrand call for special mention. Latest information is to the effect that values and reef widths are being well maintained and whereas to-day there are five mines operating in the area to the east of Boksburg which are declaring dividends it seems a moral certainty that at least another three names will be added to the list within the next few years. As bearing on the question of working conglomerate at a depth of several thousands of feet the profitable reef exposures on the lowest levels of the Village Deep, the Jupiter, and the Cinderella Consolidated must be considered full of encouragement and an incentive to the formation of plans for hoisting gold ore from a far greater depth than has ever yet been attempted in the history of mining. The strenuous endeavours of directors, consulting engineers, metallurgists, managers and mine officials generally largely have removed one great blot from the face of Rand industry. Miners' phthisis holds nothing like the terrors for workers that this fell disease did formerly, and it is probably only a matter of time and its disappearance will be complete. Considered from practically every point of view, then, the past year has been an eminently successful one. The improvement in dividend earning is but the reflex of the better conditions obtaining both underground and at surface, and shareholders may content themselves in the knowledge that Rand mining will enter on 1913 under more sound and hopeful auspices than at the beginning of the year now almost past.

### Mine Ambulance Competitions.

#### COLLIERY WORKERS SHIELD

The competition for the shield presented by the Transvaal Coal Owners' Association for the colliery workers' competition will be held on Sunday next, the 22nd inst., under actual practical conditions underground at the Apex Colliery, Brakpan. The railway stopping place nearest the mine is Brakpan Halt. The train leaving Park Station at 7.55 a.m. will arrive at the Halt about 9.15 a.m., where conveyances will meet the train. A Red Cross flag will fly from the mine headgear. Teams have been entered by the following mines, and as the result of a ballot, they will compete in the order given:—(1) Witbank Colliery, Ltd.; (2) Middelburg Steam Coal and Coke Co., Ltd.; (3) Apex Mines, Ltd.; (4) Landau Colliery; (5) South Rand Colliery. The competition will commence at 10 a.m. sharp, and the members of the com-

peting teams are requested to meet at the mine at 9.30 a.m. in order to be in readiness. The competition being held below ground, competitors should be prepared to wear suitable clothing. Mining lamps will be provided. If preferred, teams may bring the stretchers generally used by them underground (the Royal Navy stretchers in use at the Apex mine will be available), but the material usually available underground (such as old explosives cases, etc.), which will be provided for splints, etc., must be utilised by all competitors. Plain triangular bandages must be provided by all teams, as also the rescue apparatus (fully equipped and provided with oxygen) with which the respective mines are equipped. The attention of all competitors is drawn to the rules and conditions, particularly to No. 15, which provides that competitors shall not be allowed to communicate with those who have already competed, or with persons who may have been in the competition; to do so will disqualify them.—Fred Rowland, C. F. W. Burbury, Joint Secretaries.

## THE WORLD'S LEADING GOLD MINES.—II.

### Highest Recoveries and Lowest Working Costs—The White Labour Fallacy—Richest Mines Not in the Transvaal.

In our last issue we presented an exhaustive table setting forth in order of output the 57 leading gold mines of the world, each of which produced over £25,000 in either the months of September or October last. The predominance of the Witwatersrand as a gold field was therein asserted in the most emphatic manner, as no less than 39 of the 57 mines included in the list are situated on the Main Reef series. Whilst South Africa thus takes an easy lead in the matter of output and also of profit, other fields can lay claim to the highest recoveries per ton and the lowest working cost. In regard to this latter item, however, it must be admitted that the conditions obtaining at the Alaska Treadwell which operates for less than two dollars per ton are quite unique and the figure stated does not represent a finer or more economical performance than falls to the credit of the Knights Deep, the Simmer and Jack and one or two other large mines on the Witwatersrand. Of course, high grade of ore and low operating expenses are very admirable possessions of a mining company. They are factors which, when acting together, make for maximum profit per ton. But maximum profit per ton, unless considered in relation to the amount of ore crushed, is not a very weighty consideration. From the point of view of the gold mining industry or of a country the paramount consideration is the amount of gold produced and the amount of money put into circulation. From the point of view of a shareholder the things that really matter are the amounts of capital involved and the sums earned in absolute profit.

#### SOUTH AFRICA, AMERICA AND AUSTRALIA.

For these reasons then recovery and working expenditure per ton are factors of minor importance. And yet they exert a most vital influence on gold mining economies and politics, and especially on the politics of South Africa. The cry for the more extended use of white labour in and on South African mines is as loud and insistent as ever. Many, in fact, agitate for the running of the properties of the Main Reef series by white labour only, and the usual inconclusive and illogical argument advanced by these ultra white labour fanatics is that because the gold mines of Western Australia and America are operated without coloured labour therefore the mines of Africa also can be worked at a profit by whites only. Apart from the much greater widths of reef or lode with which the majority of the more important gold mines of Australasia and America are favoured the relatively low yield per ton of the Witwatersrand mines calls for particular consideration in this regard. It may be recollected that in 1903 Mr. Hennen Jennings, in the noteworthy address he delivered before the Institution of Mining and Metallurgy in London, dwelt on this aspect of Witwatersrand mining when he stated: "The Witwatersrand gold fields are of great extent and possess vast quantities of gold-bearing conglomerate which although their value is variable over certain large areas have sufficient gold to warrant the assumption of profitable extraction. It must not be understood, however, that these fields stand prominently forward in their record

as regards yield and profit per ton; in fact, very much the contrary is shown by some yields of other countries." Mr. Jennings then gave a list of the leading gold mines of the day in other parts of the world all of which recorded recoveries per ton substantially in excess of the grade secured by Rand Mines. Since the delivery of Mr. Jennings's address gold milling plants, especially on the Witwatersrand, have been greatly enlarged and there has been a very marked expansion in gold output. At the same time there has been a general reduction in working expenditure all the world over and corresponding decline in the grade of ore milled. The figures given by Mr. Jennings may be brought up-to-date and an examination of the statistics of companies for which figures as to grade are available shows that of the twelve highest grade mines each of which recovered over £25,000 in the aggregate in one month and each of which yielded two pounds and over for each ton of ore milled, three were on the Witwatersrand, three in India, one in Mexico, one in the United States, one in Western Australia, one in the Pilgrim's Rest district of the Transvaal, and one—the leading mine on the schedule—in Rhodesia. The list is as under:—

	s. d.
1. Globe and Phoenix, Rhodesia	113 0
2. Mysore, India	62 0
3. Great Boulder Proprietary, Western Australia	60 4
4. Gold Field Consolidated, Nevada, U.S.A.	58 0
5. Ooregum, India	52 6
6. Transvaal G.M. Estates, Pilgrim's Rest, Transvaal	51 10
7. St. John del Rey, Brazil	46 0
8. Meyer and Charlton, Witwatersrand	43 2
9. Champion Reef, India	43 0
10. Village Main Reef, Witwatersrand	41 7
11. Ferreira Deep, Witwatersrand	41 2
12. Mexico of El Oro, Mexico	40 0

#### OPERATING EXPENSES.

Turning from grade to the question of working costs the Alaska Treadwell mine, which has the lowest working expenditure of any gold mine in the world, as has already been said, scarcely can be fairly contrasted with other mines where quarrying or open cast working is not practicable. Excepting the great Douglas Island producer from the list, it appears that the Witwatersrand can lay claim to the seven most cheaply worked large gold mines in the world—on their October showings. The list for low working expenses is as follows:—

	s. d.
1. Alaska Treadwell, U.S. America	7 3
2. Simmer and Jack, Witwatersrand	10 10
3. Knights Deep, Witwatersrand	12 2
4. New Primrose, Witwatersrand	13 5
5. Witwatersrand (Knights), Witwatersrand	14 4
6. Robinson, Witwatersrand	14 8
7. Simmer Deep, Witwatersrand	15 5
8. Van Ryn, Witwatersrand	16 0
9. Mexico of El Oro, Mexico	16 2

#### Anglo-Transvaal Development.

The tenth ordinary general meeting of the Anglo-Transvaal Development Company, Limited, was held recently in London. The report submitted for the year ended June 30 last showed a balance of £70 in the company's favour. It was stated that it had not been found possible to effect a sale of the Misgund property.

#### Lydenburg Estates.

The report of the Lydenburg Estates, Limited, for the year ended September 30 last states that the nominal capital is now £53,750, divided into 215,000 shares of 5s. each. The directors have been carefully considering the advisability of increasing the capital to £100,000 by the creation of a further 185,000 shares of 5s. each, and intend submitting a proposal to this effect.

## THE RAND'S 1912 DIVIDEND LIST.

### Initial Declarations for the Final Half of the Year—Harvest of the Industry.

We hereunder present a table which includes the dividends paid by Rand gold mines during the week and which brings the list of distributions up to the moment of going to press:—

	Date of Declaration.	No.	Per Cent.	Capital.	Amount.
<b>ECKSTEIN-RAND MINES GROUP—</b>					
City Deep	December	1	12½	1,250,000	156,250
Crown Mines (10s.)	June	22	55	940,106	517,058
do.	December	23	55	940,106	517,058
Nourse Mines	January	15	10	827,821	82,782
do.	July	16	5	827,821	41,391
Ferreira Deep	March	18	20	910,000	182,000
do.	September	19	22½	980,000	220,500
Village Main Reef	June	23	35	472,000	165,200
do.	December	24	35	472,000	165,200
Village Deep	June	8	7½	1,060,671	79,550
do.	December	9	10	1,060,671	106,067
New Modderfontein (£4)	June	12	12½	1,400,000	175,000
do.	December	13	15	1,400,000	210,000
Bantjes Consolidated	June	1	5	502,306	25,115
do.	December	2	6½	502,306	31,394
Robinson (£5)	June	40	12½	2,750,000	343,750
do.	December	41	10	2,750,000	275,000
Durban Roodepoort Deep	June	6	5	440,000	22,000
do.	December	7	5	440,000	22,000
Rose Deep	June	22	22½	700,000	157,500
do.	December	23	22½	700,000	157,500
Geldenhuys Deep	June	25	10	585,753	58,575
do.	December	26	5	585,753	29,287
Ferreira	June	—	50	95,000	47,500
Modderfontein B	December	1	20	700,000	140,000
<b>GOLD FIELDS GROUP—</b>					
Simmer and Jack	June	20	7½	3,000,000	225,000
do.	December	21	7½	3,000,000	225,000
Robinson Deep	June	19	15	1,000,000	150,000
do.	December	20	12½	1,000,000	125,000
Knights Deep	June	14	12½	643,526	80,441
do.	December	15	10	643,526	64,352
Jupiter	June	2	2½	1,014,200	25,355
do.	December	3	2½	1,014,200	25,355
Sub Nigel (Heidelberg District)	December	1	5	431,580	21,579
<b>BARNATO GROUP—</b>					
New Rietfontein	December	12	7½	610,084	45,756
Ginsberg	June	18	15	210,000	31,500
do.	December	19	17½	210,000	36,750
New Primrose	June	38	25	325,000	81,250
do.	December	39	30	325,000	97,500
New Unified	June	8	10	250,000	25,000
do.	December	9	10	250,000	25,000
Witwatersrand	June	16	17½	425,000	74,375
do.	December	17	17½	425,000	74,375
Glencairn Main Reef	December	15	5	550,000	27,500
<b>ALBU GROUP—</b>					
Meyer and Charlton	June	15	25	200,000	50,000
do.	December	16	25	200,000	50,000
do. Bonus	December	—	10	200,000	20,000
Van Ryn	June	17	22½	500,000	112,500
do.	December	18	22½	500,000	112,500
<b>EAST RAND PROPRIETARY</b>					
New Kleinfontein	June	14	12½	2,445,897	305,737
do.	December	15	12½	2,445,897	305,737
<b>KLEINFONTEIN GROUP—</b>					
New Kleinfontein	June	16	7½	970,000	72,750
do.	December	17	5	970,000	48,500
<b>CONSOLIDATED MINES SELECTION—</b>					
Brakpan Mines	June	1	15	750,000	112,500
do.	December	2	25	750,000	187,500

(Continued on next page.)

	Date of Declaration.	No.	Per Cent.	Capital.	Amount.
<b>NEUMANN GROUP—</b>					
Wolbuter	April	9	8 $\frac{3}{4}$	860,000	75,250
do.	October	10	8 $\frac{3}{4}$	860,000	75,250
Treasury (£4)	June	13	12 $\frac{1}{2}$	540,000	67,500
Main Reef West	June	6	7 $\frac{1}{2}$	491,188	36,839
do.	December	7	5	491,188	24,559
Witwatersrand Deep	June	13	12 $\frac{1}{2}$	550,000	68,750
do.	December	14	12 $\frac{1}{2}$	550,000	68,750
Consolidated Main Reef	June	8	5	924,364	46,232
do.	December	9	5	924,364	46,232
<b>ROBINSON GROUP—</b>					
Langlaagte Estate	June	44	5	869,500	43,475
<b>GOERZ GROUP—</b>					
May Consolidated	June	28	15	288,750	43,312
do.	December	29	10	288,750	28,875
<b>MISCELLANEOUS—</b>					
City and Suburban (£4)	June	25	7 $\frac{1}{2}$	1,360,000	102,000
do.	December	26	7 $\frac{1}{2}$	1,360,000	102,000
Durban Roodepoort	March	76	10	125,000	12,500
do.	December	77	15	125,000	18,750
Jumpers	October	—	5	100,000	5,000
New Heriot	May	36	40	115,000	46,000
do.	November	37	40	115,000	46,000

## THE COMING MINING EXHIBITION.

### An Important Industrial Show—Scope Outlined.

THE Chemical, Metallurgical and Mining Society of South Africa will hold its second annual Mining Exhibition in Johannesburg for approximately two weeks in April, 1913. By the kind permission of the authorities, the Volunteer Drill Hall has been secured for the purpose. The desire of the Society is that the Exhibition should be the means of bringing before all those engaged in mining work on the Witwatersrand and elsewhere, the latest developments in apparatus of every description likely to be of use, or used, on or in the mines; and by means of lectures and demonstrations, to bring before those who are employed on the surface or underground, the best methods to be adopted for the saving of life by safety or ambulance appliances, by the alloying of dust, ventilation, etc. The scope of the Exhibition may be outlined generally as follows: Safety and rescue apparatus (such as helmets, stretchers, and other ambulance appliances, etc.); chemical, metallurgical and mining apparatus; specimens of crude and manufactured natural products of the country, as for instance: Asbestos, graphite, mica, salt, fireclay, limestone and shales for the manufacture of cement; magnesite, oilshales, copper, iron and other ores, and so on; plans, diagrams and photographs of mines, works and plants, machinery and apparatus. During the time the exhibition is open, next April, it is proposed to have a series of lectures and demonstrations by experts on some of the subjects illustrated by the various exhibits, such as life-saving in mines, ambulance work, manufactures, etc. The space available for the Exhibition is not large, and consequently the sizes of the exhibits will have to be limited to a certain extent. It is proposed to reserve a certain portion of the space for commercial firms desirous of exhibiting apparatus, machinery, models, etc., for which a moderate charge will be made in order to cover part of the expense. It may be pointed out, however, that no selling of goods can be permitted in the hall, and that all exhibits will be subject to the approval of the Exhibition Committee. Commercial firms desirous of exhibiting are requested to advise the undersigned without delay, as to the area it is anticipated they will require. Applicants for space must also state if power

or any description is required for working models or machinery. Local agents and Oversea firms are requested to bring this Exhibition to the notice of their principals at the earliest possible date, with a view to their preparing exhibits in good time. Members of the Society and others who are desirous of exhibiting apparatus or models of any description are requested to advise the undersigned as soon as possible. It is hoped that mining and metallurgical men who have models of any device or apparatus connected with their work will take this opportunity to bring them before the notice of the public. In order that this Exhibition may achieve the success it deserves, the Council hopes that this scheme will commend itself to mining men and engineers generally, and that it will receive their hearty support and co-operation. The Exhibition is primarily for the information and benefit of those engaged and interested in mining work, and to give those in search of mineral products an opportunity of ascertaining where these products may be found or obtained. It is not in any way looked upon as a source of financial gain to the Society. Admission to the Exhibition will be free. Communications regarding the Exhibition to be addressed to the secretary, Mr. Fred Rowland, S.A. School of Mines and Technology Building, Johannesburg.

### Companhia do Nyassa.

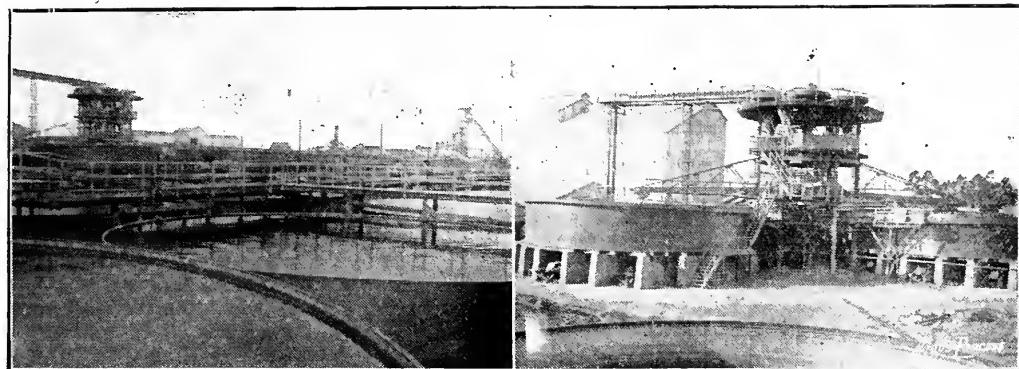
The report of the Companhia do Nyassa for 1911 states that the directors consider the year marks a turning point in the history of the company, as it separates the period when attention was directed to a general occupation from the present time, when the administration is beginning to reap the advantage of previous work. Little remains to be done to complete the work of occupation, and survey of the railway is commenced. Custom-house receipts show a decrease of £3,317, hut-tax receipts an increase of £3,995, importation a decrease of £11,270, exportation an increase of £16,731, and general receipts a decrease of £1,533,

## POSITION AT THE CONSOLIDATED LANGLAAGTE.

**Mill Not Yet Running up to Full Capacity—The Question of Dividends.**

THE management of the Consolidated Langlaagte Company has not as yet been able to run the mill up to its full crushing capacity of 45,000 tons per month. The new 100 stamps plus 10 tube mills equipment started running on October 1st and the old crushing installation closed down. Ten of the stamps and one of the tube mills are "spare" or "standby plant" and the normal milling equipment is 90 stamps and 9 tube mills with, as already stated, 45,000 tons per month capacity. In both October and November these 90

pany has had to recoup its labour loss and reinstate its policy. In consequence the first two months operation of the new mill has been attended by considerable difficulty and, of course, in this as in every new plant it has taken some time for things to shake down to a normal basis. However, the whole equipment is now running very satisfactorily and with the company's large stock of ore in reserve (there were over a million and a half tons of payable ore standing developed in the southern section of the mine at the end of September) no difficulty should be experienced in



TWO VIEWS OF THE CONSOLIDATED LANGLAAGTE SURFACE PLANT.

stamps and 9 tube mills were in operation but not on full running time. In October 34,700 tons and in November 38,375 tons were crushed, but it is hoped to work up to the maximum tonnage within the next couple of months. The reason advanced for the shortage in tonnage to the mill is that all preparations were made early in the year for the delivery of 45,000 tons per month to the mill on the first of July, by which date it was anticipated the Victoria Falls Power Company would be in a position to supply the mill with power. As is now well known delays occurred, and in consequence the company did not commence milling operations with the new plant until the beginning of October. When it was realised that there would be considerable postponement in regard to the operation of the new plant the company's milling scheme was altered somewhat and a number of labourers were "laid off." As a result the com-

operating up to the limit of the crushing capacity of the plant and earning large profits. As to recent operations it may be remarked that in the quarter ended June last a net profit of £26,481 was secured whilst in the following three months the net earning came to £28,549. The profit for last month (November) was £13,362, or two thousand pounds in advance of the October earning. The Consolidated Langlaagte should soon be in a position to declare substantial sums in the shape of dividends amongst shareholders. The last monthly profit was at the rate of over £160,000 per annum, which on the issued capital of the company, and after allowing for profits tax, represents about 20 per cent. In this connection it is interesting to note that the directors have decided, in terms of the Debenture issue, to redeem at the end of March next the whole of the £50,000 debentures which will then be outstanding.

### Messina (Transvaal) Development Co.

During November the mill ran 24·2 days and treated 1,793 tons of ore, producing 214·90 tons of concentrates, having an average assay value of 49 per cent. copper, and 182 tons of middlings, average value 10 per cent. 600 feet of development was accomplished. At the second level the drive west on middle lode has been advanced 19 feet, and, including some samples taken on last month's driving, the average value works out at 13·3 per cent. for 25 feet over 5 feet width. There is still some good ore in the face of the drive. A short raise was put up from the second level at 4 E., where some good glance was stopeed out of the level fully two years ago. For the first 10 feet of the raise above the top of the drive the value was 21 per cent.; after that granite came in, and the values have gone. At the fifth level the drive east on the hanging-wall portion has been advanced 71 feet during the month, to a distance of 181 feet beyond No. 2 west winze. From 115 feet to 185 feet the

average values show 9 per cent. over 5 feet width. At the seventh level the drive east from No. 3 west winze is now in 63 feet and the drive west 29 feet. From 35 feet to 50 feet the drive east shows 15 per cent. over 5 feet width, and the drive west for 25 feet gives 10·9 per cent. over 5 feet width. At the eighth level No. 6 west crosscut cut through two portions of reef. Two samples taken in this crosscut averaged 9 per cent. and 15·8 per cent. over 5 feet width. A drive west was put in on line of this reef, and for 10 feet gave an average of 11·1 per cent. over 5 feet width. In the foot-wall portion a raise 2 west was started, and the first 3 feet gave an average of 21·3 per cent. The face of this raise at 8 feet is in poor ground, but values should come in again. No. 2 west winze, also in the foot-wall portion, is down 14 feet. It gave 10 per cent. over the first 5 feet, and here also the reef is poorer now; but as the ore here is patchy, it is likely to improve again in depth. The Allen engine and generator are now running.

## “THE SHORTCOMINGS OF DE BEERS.”

**Reply to Critics—What the Company has Done for the Country—Extracts from the Chairman's Speech.**

In the course of his speech at the annual meeting of De Beers last week, the Chairman said: “One hears often of the shortcomings of De Beers Company, but I do not believe there is any other company in South Africa that would have yielded to the Government—as the De Beers Company did in the public interest in the case of the Klerksdorp-Fourteen Streams Railway—an asset worth at least £300,000 to the company. It is very difficult to bring these things to the public notice except by the statement of the Chairman on such an occasion as this, and the public should note this action of the company, and the fact that we are always willing to consider the public interests. I do say that by handing over the railway to the Government at the time we did we sacrificed £300,000 for the purpose of gaining the goodwill of the public of this country and of the Government. I think, therefore, there is something to be said for the company; the goodwill of the people of this country we are constantly endeavouring to obtain and to retain.

### THE COMPANY'S ATTITUDE.

Our conduct as a company is one of fair consideration for other interests as well as our own, and in further proof of this I need only say that whilst during the depression our employees accepted a reduction of one-sixth in their pay or time, since we have been able to do a little better—during the past year—we have restored to every employee, even hunting up those who had subsequently left our service, the amount they then voluntarily surrendered, costing the company in all £24,000. At the last annual meeting of the company Mr. Peiser referred to the workmen, as set out in the minutes, and I then said that the directors had the matter in hand; and my colleagues have cheerfully agreed to pay back this amount, as we thought that though it was not our business as directors to waste the shareholders' money and fling it about, it should be our best endeavour, within reasonable limits, to keep the goodwill of our employees. Our heads of departments and staff generally have instructions, written, verbally or generally understood, that to all their subordinates throughout the works the fairest treatment shall be given; that every fair consideration shall be given to the workpeople. We want to strengthen the loyalty of our employees towards the company, and we feel sure that it is best attained by such actions as the payment of this sum which I have referred to. I believe the money has been received by the men in the spirit in which it was meant, that throughout the company's service a better state of feeling between employers and employees never existed than exists to-day.

### RELATIONS WITH THE TOWN.

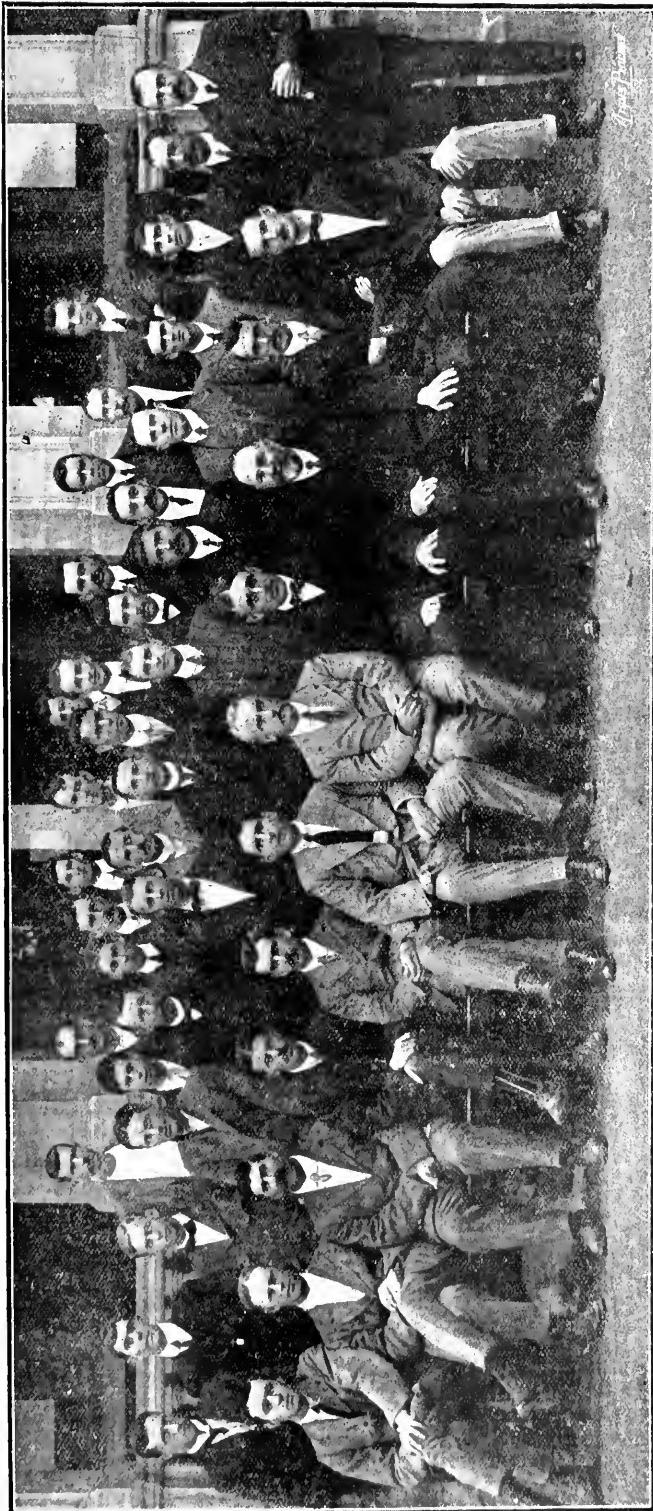
I have said that with regard to our own employees; with regard to the town of Kimberley, naturally we have always had consideration—we claim to have always been considerate towards the town. I do not think that the people of Kimberley have ever been more satisfied—perhaps never so well satisfied—as now. The considerate treatment the De Beers Company has endeavoured to show towards the town and trade of Kimberley, and also towards the farming community of the neighbourhood, is evidenced in several ways I may indicate here. First there is the large stud farm, which, as you know, is now in an advanced stage of development, where we endeavour to improve the breed of horses, and to give the farmers around the benefit of that institution. Further, during the past year the directors voted the substantial sum of £5,000 towards the Agricultural Show which is being started in Kimberley. In all these directions we are trying, as well as we can to be considerate without being, from our shareholders' point of view, extravagant, and I submit, with respect, that our shareholders should not object to that policy, because it is well that the company should have the goodwill of those who

are our immediate neighbours—it means a very great deal towards the smooth working of our company. Unfortunately, when a company is able to show successful results there are always people ready to talk as though they ought not to be successful, or at any rate, to speak as though it would be quite right and fair to take the proceeds of their enterprise or investment, and to use it for themselves. I can only say that should that policy ever come into general acceptance in this country it will mean the death knell of all enterprise, more especially those of a speculative nature. People who are prepared to risk their money in mining and similar enterprises do so with the full realisation of the fact that they may either lose what they have or make more. If when they lose they are to lose, but when they are so fortunate as to make, someone else is to come along and mulct them of a considerable share of their profit, it stands to reason that mining or other enterprise is not going to be encouraged or developed. For example, we have the man who is perhaps not taxed at all, to any material extent, at present, saying in effect: “I am not going to pay anything if I can help it; I am going to vote for the man who will let me off, and put my share of taxation on the mines instead.” I hope the people of this country, as a whole, will be more patriotic, and see the wisdom of taking a broader view than that. I hope they will recognise that in the best interests of the country at large it is well to be reasonable, fair, and just to all alike. The burden of whatever taxation it is necessary to impose should be fairly distributed all round. The mining industry does not object, and has never objected, to pay its fair share, but I do submit under existing circumstances that if further taxation must come about it is not yet our turn to be taxed. There are many other interests which do not pay anything. We already pay ten per cent. on our profits to the Government, and we think that if fresh taxation is to be imposed it is the turn of some of those who do not at present pay to come next. Should the country at any time undergo the misfortune to be again in financial straits, we recognise that we should be rightly called upon to contribute our share. But as things are at present we do say this—that until the profits on many other interests than diamond mining are taxed, we ought not to be taxed further than we are. In saying this, I believe I am representing your views as shareholders, and the views of most of the people in Kimberley, and I am sure of all just and equitable men throughout South Africa. Until other interests which are producing and making profits are taxed, it is not the duty of the Government to increase the taxation already cast upon the mining industry. Last year we paid £347,000, and I hope that when another year comes round the Government will still receive more from the company. The Government is the largest individual shareholder of the company, as it takes ten per cent. of our profits, which is more than ten per cent. of the dividends, because they include as profits items which we in many cases do not include in that term.

### Cape Copper Co.

The report of the Cape Copper Company, Limited, for the year to April 30 last in the Colony and to August 31 in London states that the net profit obtained amounts to £80,494, to which must be added the credit balance of £41,007 brought from the previous year, making a total of £121,501. This has been dealt with as follows: £8,260 has been set aside for English income-tax and £8,772 for Colonial income-tax. £2,788 has been transferred to an O'okiep smelting works sinking fund, and £43,125 has been paid in dividends. There remains a balance of £58,554, out of which a final dividend of 2s. 6d. per share (making 3s. 6d. per share for the year), free of income-tax, on both the preference and ordinary shares has been declared.

## MANAGER OF THE ROBINSON AND STAFF.



Reading from left to right.

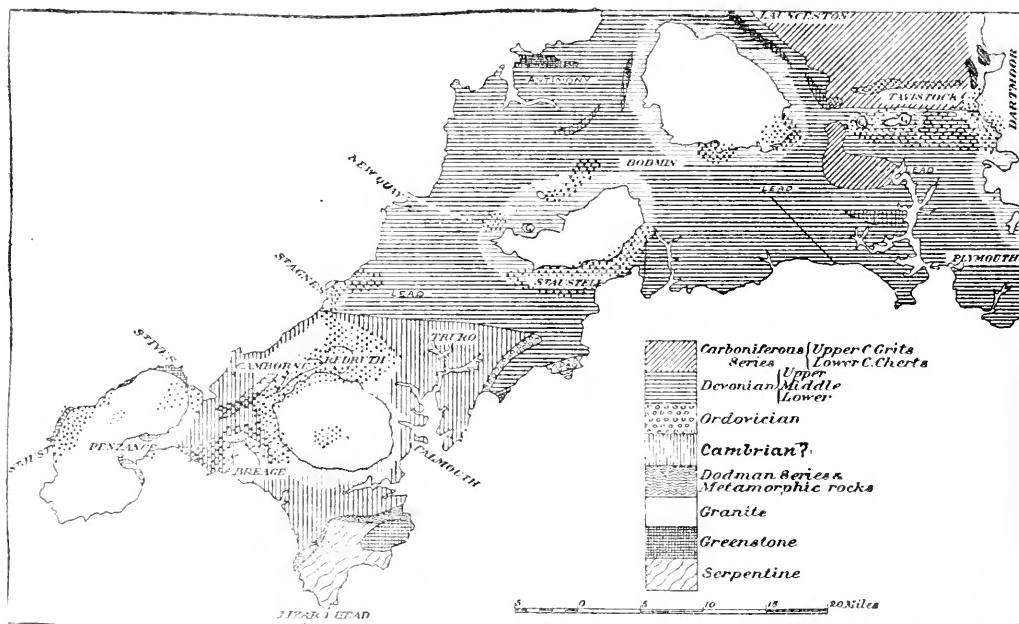
First Row.—A. E. Baker (shift boss), K. Leonberger (mine captain), H. J. Alexander (cyanide manager), H. A. Adams (chief surveyor), J. E. Lahyon (resident engineer), Palmer Carter (manager), F. W. Tompkins (resident secretary), E. A. Nass (underground manager), H. E. Harland (mill manager), E. Fisher (mine captain), W. Andrews (natives' administrator).  
 Second Row.—R. A. Betbury (shift boss), P. C. Fairness (shift boss), R. A. Lister (sampler), L. Calvert (surveyor), J. Bryant (foreman fitter), G. W. Pago (sampler), T. E. C. Smith (foreman fitter), S. v. Niekerk (assistant assayer), J. Bell (storekeeper).  
 Back Row.—H. W. Peters (assistant mill foreman), H. C. Gray (sampler), D. M. Griffiths (sampler), E. Konge (sampler), P. J. Pike (shift boss), F. W. Burgess (foreman electrician), W. S. Humpreys (chief timekeeper), F. Moloney (sampler), H. Ratteford (clerk), H. A. Holm (storekeeper), J. P. Jordan (shift boss), W. Munro (assistant timekeeper), R. Gerrans (assistant timekeeper), W. Brown (natives' secretary), W. Phillips (assistant timekeeper), R. Thornton (assistant timekeeper).

## TRANSVAAL TIN DEPOSITS.—II.

### Importance of Physical Conditions—Persistence in Depth of Tin Deposits— Features of the Granite-Felsite Contact.

THE geological fact that " wherever tin deposits accompany a batholithic intrusion of granite it has been found that the deposits occupy portions at or near the summit of the batholith " is obviously one of some importance in any investigation of the prospects of various portions of the tin-bearing region of the Bushveld. Any structural features that would tend to hinder the free flow of the metalliferous gases, to facilitate their passage, or to compel an accumulation of them would be likely to influence the deposition of ore to a considerable extent. It has been found, for example, that tin deposits are generally lacking where the contact between the granite and invaded rock is steep, but

below which the hope of finding tin in anything beyond infinitesimal quantities might well be abandoned. Over a large area in the district to the north-east of Potgietersrust the upper, or what may be called the tin-bearing crust, of the coarse red granite, is well exposed, and within it the various tin discoveries from Solomon's Temple to Appingedam and beyond have been made. In the low-lying country east of the range whose flanks descend from the upper to the lowest granite horizons no discoveries of tin of any importance have been made. If the theory under discussion be true this circumstance may easily be explained on the ground that only the stubs, or extreme " roots " of



GEOLOGICAL MAP OF CORNWALL.

tend to occur in both the granite and overlying cover where the contact dips at a low angle. It is not unlikely that the concentration of ore in the Zaaiplaats district of the Waterberg tin field is due to some extent to physical conditions of the kind referred to, although something must be allowed for the possibility of a specially abundant existence of tin in the granite of those parts and for the specially favourable circumstances under which the metallic constituents of the granite were accumulated in the final stages of differentiation. The extensive development of pegmatites is an indication of these more advantageous circumstances.

#### THE QUESTION OF EROSION.

Since tin ores tend to be accumulated at the summit of a batholith or in its upper layers, the extent to which the granite has been eroded is a question of no small significance. If vast denudation has taken place so that only the deeper portions of an old granite mass remain, the chances of finding payable tin deposits become, on this theory, greatly lessened, and it might be possible to arrive at a level at or

pre-existing and denuded deposits would be likely to be found along the Magalaquene valley. This view has obviously a bearing upon the continuity in depth of deposits which have already been opened up. In a section from the Waterberg plateau to the Magalaquene River, across Zaaiplaats, which appears in a memoir of the Geological Survey, the thickness of the coarse red granite, between the pegmatite zone and the upper edge of the norite, is shown as being about 10,000 feet. There is thus a great depth demonstrated, and supposing that the known occurrences of importance were to continue downwards for not more than about a third of this distance they would attain a depth equal to the lowest working in the Dolcoath mine. It might be expected, of course, that values would deteriorate as depth increased, but whether the diminution would be gradual or somewhat abrupt it would be impossible to foresee. There are questions which cannot be elucidated satisfactorily by any other means than actual exploratory work, but much light could be thrown on the subject by a careful study of the exposed surfaces of the granite eastwards of the tin-bearing zone of the Solomon's Temple.

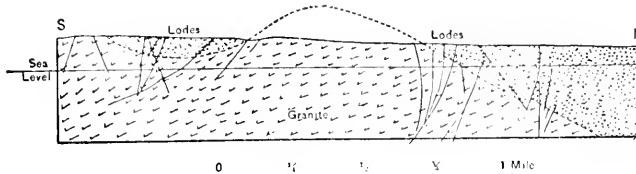
Zaaiplaats, Groenvlei range, and the services of the Geological Survey department might be usefully employed on an investigation of this kind.

#### THE DOORNOEK REGION.

Going in a south-westerly direction from this neighbourhood one finds the tin deposits ranged at or in proximity to the felsite contact, and to take the form of veins and lodes

the meaning of the term "close proximity," and since there is little doubt that the granite underlies the Rooiberg quartzites it is of interest to consider what the term is likely to mean in regard to that particular area.

The accompanying illustrations include a geological map of the tin region of Cornwall in which the occurrence of granite around the edges of the granite masses, or in overlying metamorphic country, is particularly to be noted. A



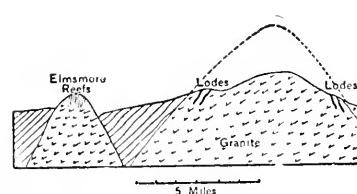
SECTION FROM FELTRICK TO NEW NORTH POOL, CORNWALL.

rather than of the massive irregular bodies which are characteristic of the Zaaiplaats neighbourhood. In this south-western extension of the tin-bearing area of the Waterberg such prospecting as is carried out upon the granite exposures, at any distance from the granite-felsite contact zone, must evidently depend for success upon the extent to which denudation has left the original surface of the Bushveld batholith unremoved, or upon the existence of particular granite bodies in the main mass which may be specially favoured in the matter of tin contents. The same may be said of other granite areas in the Bushveld; those, for instance, to the north of Pretoria, near Hamman's Kraal Station, and those still further east in the vicinity of the Bushveld Tin Mines.

#### THE ROOIBERG.

The case of the Rooiberg in which tin is found in quartzites will doubtless suggest itself to the reader as being an exception to the rule that the metal is usually found in close proximity to the granite contact. Much depends upon

a couple of sections show the same conditions with regard to tin veins, although that taken from a part of the Cornish tin field does not emphasise the points to a great extent owing to the comparatively short distance covered by the section.



NEW ENGLAND DISTRICT, NEW SOUTH WALES.

## RAND INDUSTRIAL PROBLEMS.

### Points from Chamber of Mines Report—Labour Recruiting Results.

THE report of the Executive Committee of the Transvaal Chamber of Mines, presented to the monthly meeting on Thursday, contains the following:—

**Finance.**—During November the disbursements amounted to £2,891 16s. 10d. (including £1,121 7s. 8d. handed to Transvaal Miners' Phthisis-Sanatorium), and the receipts (including £216 19s. 2d. received on account of Transvaal Miners' Phthisis Sanatorium) to £508 10s. 2d. The balance to credit of current account on the 30th of November was £5,809 10s. 4d. The sum of £5,000 remains on fixed deposit.

**Native Labour.**—The returns supplied by the Witwatersrand Native Labour Association, Ltd., show the following results for the months of October and November:—Number of natives employed by members of the Association on last day of month (including natives in the service of mine contractors, but excluding natives in the employ of members of the Association in the districts of Barberton, Breyten, Rooiberg and Louis Moore). October: On gold mines, 182,058; on coal mines, 8,803; on diamond mines, 15,496; total, 206,357. November: On gold mines, 186,881; on coal mines, 8,767; on diamond mines, 14,872; total, 210,520.

**Recruiting Results.**—The Witwatersrand Native Labour Association and the Native Recruiting Corporation furnish the following information with regard to the natives recruited by the Association and its members and the Corporation during the month of November, 1912, and the districts whence they were obtained. These figures do not include natives recruited by mine contractors. The corresponding figures for the month of October are given for the purpose of comparison:—

	October.	November.
East Coast—		
South of latitude 22° S.	4,955	4,726
North of latitude 22° . . .	2,112	1,238
British Nysaland Protectorate and		
B.N.P., Independents . . . . .	17	41
Cape Province . . . . .	4,542	5,649
Transvaal Province . . . . .	462	591
Basutoland and O.F.S. Province . . . . .	1,411	1,515
Bechuanaland . . . . .	130	115
Natal Province . . . . .	598	895
Swaziland . . . . .	360	356
Rhodesia (including via Pietersburg) . . . . .	25	50
Local . . . . .	7,535	7,025
Totals . . . . .	22,151	22,201

The monthly report issued by the Department of Native Affairs shows that at the 31st of October, 1912, 310,519 natives were employed in labour districts of the Transvaal. Of this number, 217,856 were engaged on mines and on the various classes of works specified in Part I. of the Coloured Labourers' Health Regulations, 1906, and 92,663 were in other employ.

**Assaults Commission.**—The Government Commission regarding assaults on women, which was appointed on the 2nd of July to inquire into and report, *inter alia*, on the causes of these crimes, and especially with reference to . . . . . the congregation of a large number of natives in mining areas for long periods in separation from their women folk; the excessive use of liquor . . . . . the divorce of the native from his customary mode of life . . . . . held a number of sittings in

Johannesburg, and the Chamber laid a statement before it setting out the views of the mining industry on these terms of reference more particularly affecting natives working on the mines. Mr. E. L. R. Klesley, the Chamber's legal adviser, attended the Commission on the 2nd of December, and gave evidence on behalf of the Executive Committee in support of the statement.

*Cession of Native's Wages.*—Case of New Rietfontein Estate Gold Mines, Ltd.—J. L. Misun. The plaintiff in this case, L. L. Misun, sued the defendant company in the Magistrate's Court for £1 0s. 6d., basing his claim on a cession by a native labourer in the company's employ, of wages accruing to him up to that amount in respect of a debt due for goods sold and delivered. The case was won in the Magistrate's Court by the defendant company, and from that decision the plaintiff, Misun, appealed to the Provincial Division of the Transvaal. In the latter Court, Misun was successful, the Court holding, broadly speaking, that section 15 of the Native Labour Regulation Act had not taken away from the native labourer his common law right of cession. From that decision the defendant company appealed to the Appellate Court, with the result that the decision of the Provincial Division was reversed, and its effect from the practical point of view is as follows, viz., that an employer is guilty of an offence who pays the whole or any part of the wages earned by any native labourer employed by him to any person other than such labourer, unless such person produces the written consent of the Director of Native Labour.

*Import Duty on Maize.*—In view of the shortage in the supply of maize throughout South Africa, owing to the prolonged drought and the scarcity of food existing in some of the native territories, the Chamber has addressed a communication to the Prime Minister, urging on the consideration of the Government the desirability of suspending temporarily the import duty on maize and reducing the railway rate on imported mealies to the present tariff for the South African product.

*Water Supply.*—The question of an adequate water supply at the disposal of the Rand Water Board has continued to receive the earnest consideration of the Executive Committee, and, with the exception of the J. B. Robinson group of mining companies, the Chamber has decided to advocate the introduction without delay of measures required for the acquisition by the Rand Water Board of an additional supply from a secure and permanent source. The Chamber has informed the Rand Water Board that, on behalf of the mining companies, with the above exception, it is willing that the capital charges in respect of the expenditure of any new loan required for an additional scheme should be borne equally between the mining companies and the municipalities, and that a majority of the mining companies is agreed that provision

must be made for the right to readjust the fixed charges among the various mines, having regard to the quantity of water consumed. The necessary steps for the introduction of legislation to carry the scheme into effect will be taken by the Rand Water Board.

*Apprentices on Mines.*—The Organiser of Technical Education in the Transvaal has been informed, in response to an inquiry made by him, that the Chamber, after consultation with the Association of Mine Managers, has agreed to a proposal that apprentices who have satisfactorily completed a three and a half years' course at one of the Transvaal trades schools be credited with two years of apprenticeship as an equivalent.

*South African Committee re Import and Export Trade.*—A communication was received from the Under Secretary for Mines transmitting copy of a letter addressed to the High Commissioner in London by the Chairman of the Union-Castle Steamship Company on the subject of the proposed formation of a committee in South Africa of those interested in the import and export trade, and inquiring if the Chamber would be prepared to appoint a representative or representatives on such a committee. The Executive Committee replied that the Chamber would be pleased to fall in with the suggestion.

*South African School of Mines and Technology.*—The Executive Committee have been notified that the Council and Senate of the South African School of Mines and Technology have awarded the Chamber's gold medal and research scholarship for the year 1912 to Mr. M. O. Baumann.

*Membership.*—The following withdrawals from membership from the 31st of December, 1912, have been notified:—East Rand Extension G.M. Company, Ltd.—representative, Mr. G. D. Massey; "The Jumpers" G.M. Company, Ltd.—representative, Mr. H. P. Rogers; E. Friedlander & Co., Ltd.—representative, Mr. M. Ullmann; French Rand G.M. Company, Ltd.—representative, Mr. P. Cazalet.

### Golden Hill Proprietary.

Mr. John Croxford, Senr., has joined the board of the Golden Hill Proprietary, Ltd., and Mr. Haddow, another director, intends to reside upon the property for some time in order to direct operations personally.



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## SOME PRESENT-DAY ASPECTS OF THE LABOUR QUESTION.

### Need for Reducing Working Costs—Expanding White Labour Ratio—The Matter of Wages.

In the last annual report of the Consolidated Gold Fields we find the following remarks, *inter alia*, by the Acting Superintendent Engineer:—"Realising that the large areas of low-grade reef owned by some of our companies can be made highly profitable if working costs are reduced to a reasonable figure, your engineering staff have put forward every effort towards economy and efficiency at all points. To this end our reduction plants are being brought into line with latest practice as regards efficient extraction and cheapness of working, our compressor plants, air mains, etc., are being increased and improved, so that the maximum efficiency may be obtained from machine drills, and the latter are being introduced in place of hammer boys wherever practicable. The benefit of this last policy is two-fold; not only is good machine work cheaper than hammer work, but its introduction greatly reduces the native labour shortage, thereby enabling a larger tonnage to be milled, with corresponding reduction in costs and increase of profits. Of all our difficulties the insufficient supply, the inefficient quality, and the ever increasing cost of native labour has been the worst. The concerted action among the groups in regard to recruiting and a uniform schedule of native pay should do much to reduce the item of cost, and the excellent progress of the small drill during the year affords hope of relief in the matter of insufficient supply. It is safe to say that the small drill has made greater headway during the past year than during any previous year. Small piston drills have been greatly improved and their use extended, and yet smaller drills of the hammer type have come prominently to the front. Mr. Chalkley, the manager of the Knights Deep Mine, is now carrying out experiments, on a working scale, using a hammer drill weighing 32 lbs. for ordinary stoping work. These experiments are still incomplete, but the results to date are most encouraging and afford reasonable hope that drills of this type will compete favourably not only with the hammer boy in narrow stopes, but even with the large machine in the wider stopes and in development faces."

It is a proposition which probably no one will dispute that one of the essential conditions to be attained, if the prosperity of the Rand is to endure, is the lowering of working costs per ton to a more reasonable level than they average at present. The greater difficulties to be met in the deeper levels, involving greater capital expenditure, and the comparatively low grade of ore which it is the policy of most companies to mill make it necessary that the utmost vigilance should be used in order that blanket at increasing depths from the surface should be profitably mined. As is pointed out by Mr. Craig in the statements just quoted a great deal is hoped for from the small machine drill. If, as is anticipated, the hammer drill will compete favourably with the hammer boy in narrow stopes, and with the large machine in the wider stopes, the result will inevitably be that a larger proportion of white labour, of an experienced kind, will be required, in order to obtain that efficiency without which a competition of the kind described would not be sufficiently advantageous to justify the additional capital which suffices to lay down an adequate drilling plant. White labour has hitherto been regarded with a certain amount of disfavour owing to the fact that it has generally been inefficient as well as costly. In spite of this circumstance the quantity of white labour employed has increased year by year merely because intelligent supervision has become more and more in demand in the same proportion that mining has become more difficult and in proportion, also, to the increase of mechanical appliances in stoping. The following table, taken from the statistics of the Mines Department, shows the great expansion of the white labour force during the past five years. At the end of the table there is given a column which enumerates the native and coloured labour force, including Chinese, during the periods recorded. Between the statistical years 1909-10 and 1911 a period of six months,

from the beginning of July to the end of December, 1910, is interpolated. This is due to the fact that the date of the commencement of the statistical years was changed at the end of 1910 from the first day of July to the first day of January.

AVERAGE NUMBER OF WHITES AT WORK.

Witwatersrand Gold Mines.	Producing.		Non-Producing.		Total.	
	Below.	Above.	Below.	Above.	Whites.	Natives & Coloured
Year 1907-8 ...	7,193	7,521	589	1,475	16,778	143,441
Year 1908-9 ...	7,700	9,650	544	909	18,305	151,544
Year 1909-10 ...	8,729	10,988	787	1,591	22,095	156,534
2nd half, 1910 ...	9,519	11,358	968	2,114	23,959	169,852
1911 ...	10,684	12,184	526	903	24,297	173,752

A feature of this table which strikes one almost at a glance is the greater rate of increase in the above-ground working force of producing mines as compared with that of the underground complement. This may doubtless be accounted for largely by the fact that at some of the producing mines a very great deal of construction work has been in progress during the last few years. Apart from that it is evident that a considerable percentage of the white labour force, approximately 50 per cent., perhaps, of a mine, is permanently occupied in surface operations. The table shows that the native labour supply has increased rapidly, side by side with white labour, although it is easily seen that the rate of increase has not been nearly so great. It can scarcely be asserted in the face of these figures that white labour has been undergoing a slow process of elimination. In order that this aspect of the question may be more distinctly exhibited the following table taken from the same sources as the previous one may be referred to. Here the ratio of white to coloured labourers is shown, in the first column, to have advanced from 1:9·3 in the year 1907-8 to 1:7·7 in the year 1911, the advantage in the case of the white employee having been steadily and continuously accelerated.

COLOUR RATIO AND EFFICIENCY TABLES.

Witwatersrand.	Ratio.	Employed per 1,000 tons milled.		Tons milled per Labourer employed.	
		White.	Coloured.	White.	Col.
Year 1907-8	1 to 9·3	0·89	8·63	1,125·9	113·3
Year 1908-9	1 to 8·9	0·88	8·10	1,135·1	123·6
Year 1909-10	1 to 7·7	0·95	7·58	1,056·3	131·9
July to Dec., 1910	1 to 7·6	0·96	7·68	1,045·2	130·2
1911 ...	1 to 7·7	0·97	7·55	1,030·9	132·5

It will, no doubt, be argued that since the industry has been in a state of expansion during the whole of the time covered by these figures the movement in favour of white labour can scarcely be expected to be continued. The growth of the mining industry in the matter of production, as we have already indicated, is not the only factor in the relative advance of white and black labour. Although production should cease to be augmented the necessity for economy and efficiency in underground work will continue, and will, in fact, become greater, and as long as this condition prevails the intelligence and skill of the white worker will be in demand. The inexperienced, unreliable, and resourceless native will steadily give way before his competitor under circumstances in which his demerits will become increasingly evident, and no interference with economic laws will be necessary in order to establish the importance of the white miner in the deeper levels. If some proof of the accuracy of these views be asked for we may point to the second and third columns of the preceding table, in which it is shown that while the total number of employees per 1,000 tons milled upon the Witwatersrand has been gradually diminished year by year, over the period covered, the relative changes in the two branches of the

labour force have been of quite a reverse kind. The percentage of white employees has been regularly increased and *pari passu* it may be said, the percentage of native workers has grown smaller. The two last columns of this statement demonstrate the same fact in another way, while showing, also, that the total labour employed has become somewhat more productive per unit, year by year. Another presentation of the same view is given in the next tabular statement, in which the influence of the sorting factor has been eliminated.

TOTAL AT WORK UNDERGROUND PER 1,000 TONS HOISTED PER DAY.

Witwatersrand. Month and Year.	White.	Coloured.	Total.
Dec., 1907 ..	109 .....	1,563 .....	1,672
Dec., 1908 ..	98 .....	1,381 .....	1,479
Dec., 1909 ..	111 .....	1,270 .....	1,381
Dec., 1910 ..	112 .....	1,320 .....	1,432
Dec., 1911 ..	115 .....	1,281 .....	1,396

It is commonly said that statistics may be used to prove anything. It must be admitted that in the matter of efficiency the figures already quoted may be interpreted in more ways than one. While it is clear, for instance, that a greater quantity of work is being done to-day per combined unit of black and white than was the case several years ago, it is far from being evident that improvement is due to the advancing ratio of one kind of labour as compared with the other. On the one hand the smaller number of natives per 1,000 tons hoisted may be taken to indicate that the "unskilled" worker is becoming more experienced and capable, and *per contraria*, the larger number of white persons occupied in mining may be regarded as evidence that this class of labour is less efficient and able. On the other hand the greater productive capacity of the native may be attributed to the fact that he is under more extensive supervision. We have never heard that the average miner of to-day is a better man than his predecessor of several years and more ago: rather the contrary. Nevertheless the advantage of the white man's intelligence and principle over that of the Kafir will doubtless continue to make more openings for the former, even if quantity be required to make up for quality in the matter of his usefulness. The increasing use of skilled labour is strikingly emphasised in the wages bill of the mining companies, as may well be understood. In the accompanying statement it will be observed at once that while the total sums paid in wages have been mounting up year by year, and forming a larger percentage of the value of the gold output, the wages of the coloured labour complement have moved upwards very slowly as compared with those of the white employees. In the Mines Department returns the figures for the Witwatersrand are not segregated, and those given, which refer to the whole of the Transvaal, are sufficiently useful for our purpose.

SALARIES AND WAGES: GOLD MINES.

Transvaal.	Salaries.	Whites.	Coloured.	Total.	Gold Output
Year 1907-8	£959,444	£4,966,972	£4,397,491	£10,323,907	£27,258,451
Year 1908-9	1,018,796	5,547,862	4,472,418	11,039,106	29,678,958
Year 1909-10	1,156,319	6,385,164	4,854,007	12,395,490	29,715,853
Year 1911 ..	1,256,406	7,266,108	5,740,933	14,283,447	33,407,654

New Kleinfontein.

The following circular has been issued to the shareholders in the New Kleinfontein Company, Ltd., by the secretary:—"At the last annual meeting the Chairman stated that the directors had had under consideration the question of providing for the repayment of the loan raised for the purpose of extension of plant and advance development, and that they were of opinion that this could best be effected by a further issue of shares, proposals in regard to which the Chairman anticipated would be put forward at an early date. Owing to the general depression in mining matters, however, it has not been possible to submit such a scheme, and the board has therefore approached the company's bankers, who have agreed to extend the period of repayment of the loan, subject to reasonable reductions being made. In view, therefore, of this arrangement, the board has decided not to maintain the usual rate of dividend, but to make a distribution for the half-year ending December 31, 1912, of 5 per cent. (one shilling per share), making a total of 12½ per cent. declared during the current year. As the result of this reduction in the dividend the board will be enabled to provide

It has been asserted that the wages bill of the white department of labour is now showing signs of a serious falling off. It can scarcely be claimed that a falling off to the extent of 4 or 5 per cent. is serious when it is considered that the efficiency of white labour underground is declared on good authority to be less than it was. The following table, which records the average wages paid to underground employees on the Witwatersrand at the periods mentioned makes it plain that the reduction of pay has been in those departments in which reductions were legitimately called for. It will also be apparent that the wages recorded for June, 1911, constituted in some cases a high-water mark as compared with earlier years, and to quote the wages bill for that half year as a standard to be followed is obviously to be regardless of previous ruling rates:—

Classification.	Average Pay per Shift.				
	June, 1909.	June, 1910.	June, 1911.	Dec., 1911.	June, 1912.
Shift bosses .....	24 11	24 7	24 8	25 2	26 0
Timbermen .....	20 0	20 4	20 5	20 10	20 6
Pipemen .....	18 4	18 11	18 1	19 4	18 10
Fitters .....	20 8	20 5	21 3	20 0	21 9
Plateayers .....	18 1	18 4	18 5	18 7	18 5
Banksmen and onsetters .....	14 3	14 6	14 8	14 7	14 9
Skipmen .....	15 11	15 9	16 2	15 9	15 11
Trammers and gängers .....	13 6	13 7	13 11	14 0	14 0
Pumpmen .....	18 8	18 7	18 7	18 9	19 0
Miners—Machine stopping:					
Contract .....	28 5	27 11	28 10	28 8	27 9
Day's pay .....	21 0	21 2	22 4	22 3	20 6
Miners—Hand stopping:					
Contract .....	25 1	23 8	24 5	26 11	24 10
Day's pay .....	18 10	18 3	18 4	19 6	18 8
Miners—Machine developing:					
Contract .....	32 7	36 5	38 8	35 4	34 11
Day's pay .....	22 3	22 2	23 2	20 2	19 8
Miners—Hand developing:					
Contract .....	28 0	28 5	27 0	27 6	29 6
Day's pay .....	19 4	19 8	22 9	19 0	18 6
Shaft sinkers:					
Contract .....	46 11	47 11	54 6	50 5	49 10
Day's pay .....	20 8	22 3	24 2	25 0	25 9

An examination of the various tabular statements given above lead to the conclusion, it seems to us, that the reduction in the white wages bill marks the effect of a legitimate lowering of prices for certain kinds of work. The larger output which is recorded periodically is not so much an indication of greater personal efficiency on the part of the labour force, either white or black, as a result of the more extended use of machine drills. The continued introduction of these drills must inevitably add to the white labour force and there is a prospect of the wages bill of the latter being increased in the aggregate, partly in consequence of better work being accomplished and partly as a result of the transfer of a portion of the native's wages to his competitor in the field of labour. Economic laws will adjust these matters in a natural and safe way, whereas a blundering and ill-directed interference with the action of these laws may end in disaster. To force expensive labour on the mines would be to force up the payable milling grade, and an attempt of that kind might well mean the abandonment of a large area of deep levels as may be inferred from Mr. Craig's remarks at the beginning of this article.

out of profits for the whole of the capital expenditure incurred during the year, amounting in all to about £85,000. It is estimated that the financial position of the company at December 31, 1912, will show a shortage of some £205,000 after providing for the payment of the dividend, profits tax, etc., and in arriving at this figure no account has been taken of the value of such floating assets as sundry debtors, stores, stands, shares, etc., amounting in all to about £50,000. In view of the rumours which have been current with regard to the life of the mine, the directors have caused fresh calculations to be prepared by the consulting engineer, who estimates the life to be thirteen years from January, 1913, as compared with a life of eighteen years from January, 1911, advised in the circular issued to shareholders on January 20, 1910. This matter will be dealt with in detail by the consulting engineer in his annual report for 1912, which will be published early next year."

The best "Reef Traveller" is the South African Mining Journal.

## THE GOLD FIELDS' RHODESIAN INTERESTS.—II.

### The Planet-Arcturus, Thistle-Etna and Bell Mines.

The following are further extracts from the interim report of the consulting engineers of the Gold Fields Rhodesian Development Company, which was issued in London on the 7th November. The report was written by Messrs. Fraser and Dudgeon, and confirmed by Mr. H. A. Piper. The first portion appeared in our issue of December 7.

#### THE PLANET ARCTURUS MINES.

These mines continue to develop in a very satisfactory manner, and the ore reserves have been materially increased as the result of systematic cross-cutting and development work. *Slate Mine*.—The main shaft on this mine is now down 645 ft. from the surface, the 5th level station being made at 590 ft. This shaft passed through the reef just below the 4th level station. On the 2nd level additional cross-cuts have been put in, and have materially helped the ore reserves. In the original calculations on this level the width of ore was taken at 58 ins., having an average assay value of 15 dwts. As a result of the above cross-cuts this width is now taken as 77 ins., averaging 17·7 dwts. over a length in both cases of 425 ft., the total length of this level being about 850 ft. A small amount of driving, both east and west, has lately taken place on this level, but with negative results, only small bunches of reef appearing here and there. *3rd Level*: On this level a considerable amount of work has been done and some valuable ore opened up, chiefly through the medium of cross-cutting. The average value is 14·4 dwts. over a width of 78 ins. for a length of 453 ft. *4th Level*: Owing to the easterly pitch of the ore shoot no values were encountered till 95 ft. had been driven east. From there up to the present face of the east drive 165 ft., an average value of 19·1 dwts. over 31 ins., had been obtained. No crosscuts have been put in, so that the full width of ore body is not yet exposed, more reef showing in either wall of the drive. On the west drive nothing has been opened up so far. On this level what is known as the "Sump" reef was cut when making a sump for the pump in the main crosscut, and gave an average assay value of 6·5 dwts. over 72 ins. On driving on it, however, only small values have been met. Eastwards also this reef was proved on crosscutting to have pinched out. In the No. 1 C Winze from the 3rd to the 4th level, with which this latter will shortly connect, an average value of 30·0 dwts. over 35 ins. for 93 ft. sunk has been obtained. Between the 2nd level and 3rd level the winzes have given the following assay results:—No. 1a, depth 130 ft., length in ore 110 ft., 60 ins., 29·5 dwts.; No. 2a, length in ore, 32 ft., 27 ins., 6·0 dwts.; No. 3a, length in ore 92 ft., 41 ins., 18·5 dwts.; No. 3b (raise), length in ore 36 ft., 32 ins., 21·4 dwts. (the two latter now connected). On the 5th level it is not expected, owing to the easterly pitch of the ore shoot, to pick up any good values on the main reef until about 160 ft. of driving has been done.

*Arcturus Mine*.—In this mine, as on the Slate, work has been confined to opening up the lower levels 2 and 3, and also putting in additional crosscuts on all levels and in some winzes, thereby, as in the Slate mine, exposing greater widths. On the 1st level the pay shot was taken at 310 ft., showing an average value of 11·7 dwts. over 49 ins. Now, owing to crosscuts, the values have proved to be higher, viz., 13·2 dwts. over 65 ins. for the same length. On the 2nd level an average value of 14·5 dwts. over 50 ins. for 545 ft. was obtained from drives only, and now, as a result of cross-cutting, an average value of 12·0 dwts. over 116 ins. has been obtained over the same length. Medium values are still being obtained in the east drive after passing through a very broken section of country. On the 3rd level 342 ft. have been driven at a depth of 370 ft. from surface, which to date shows an average value of 13·0 dwts. over 72 ins. Only one crosscut has so far been put in on this level in either drive. *Main Shaft*: This is now down to 473 ft., the 4th level being made at approximately 500 ft.

*Planet Mine*.—In this mine, again, as a result of cross-cutting, it has been found that considerable portion of the drives have been carried off "values." In some cases stripping down of the walls of the drive has been all that was required to further expose the reef. *Main Shaft*: This is now down 290 ft., the 2nd level being at 253 ft. from surface, steel sets being employed throughout, as in the Slate and Arcturus mines. The following figures give the length of the pay shoots on the two levels up to the end of September:—1st level, 400 ft., 27 in., 17·0 dwts.; 2nd level, 348 ft., 27 in., 18·9 dwts. The 2nd level east drive still continues in ore, averaging about 14·5 dwts. The face is now in 285 ft. *Development Footage and Costs*: The following figures show the position of the various mines at the 30th September, 1911, and 30th September, 1912:

	Slate.		Arcturus.		Planet	
	1911.	1912.	1911.	1912.	1911.	1912.
Total development footage ..	4,912	8,344	3,169	5,919	3,918	4,684
Average cost per foot for 1912 ...	£4 9 0		£4 15 8		£6 18 7	

*Ore Reserves*: The following figures show the ore reserves as at the 30th September, 1912, together with contents in ounces and pounds sterling:—

Mine.	Tons.	Average Value. Dwts.	Content. Oz. Gold.	Value.
Slate ... ...	77,112	17·0	66,704	£280,156
Arcturus ... ...	64,152	14·0	45,700	191,973
Planet ... ...	9,492	15·6	7,440	31,245
Total ...	150,756	15·9	119,853	£503,374

The total ore reserves in all three mines have nearly doubled during the year's working, while the grade shows a falling off of only half a pennyweight. *Reduction Plant*: Nothing will be done in connection with this until pending negotiations for a railway are completed, nor can any definite statement be made as to its capacity, as the reefs are proving of greater width than anticipated.\*

#### THE THISTLE-ETNA MINES.

The mill on this property closed down on 31st December, 1911, in order that development work might be pushed ahead. The ore reserves stood at 30th September at 15,750 tons at 8·8 dwts.

*Etna Mine*.—Development has been carried on at the 4th, 5th, and 6th levels. The 4th level has opened out fairly well. The length of ore shoot here was 603 ft., averaging 8·8 dwts. over 30 in. The 5th level has been disappointing. A dyke cut out all values north of the main shaft, and on driving south, away from the dyke, values have been poor. The shaft has been sunk to the 6th level, and driving north and south has been done. At date no pay shoot has yet been picked up, due to the influence of the dyke. The south face should shortly be through the dyke, when an improvement may be looked for. Driving north we are still in dyke. A vertical shaft was laid out to cut the reef at 700 ft. This was sunk a distance of 277 ft. In view of the disappointing results obtained in the 6th level from the incline shaft the vertical shaft is not at the present moment being continued.

*Thistle Mine*.—The shaft has been sunk to the 3rd level. A crosscut has been put in which has recently cut the reef

\*Since the receipt of this report the following cable has come to hand:—"The following is latest development Slate mine: No. 4 level, east drive in high grade rock, last 12 ft. average assay value 191 dwts. over 52·5 ins. not reduced; last 160 ft. average assay value not reduced 2 ozs. 18·6 dwts. over 33 ins.; reduced 1·3 ozs., width not fully exposed. Winze No. 2 C, 150 ft. east of above drives, also showing similar formation and value; visible gold in face of winze and all other development faces on the Slate mine continue satisfactory."

below the dyke, assaying 20 dwts. over 8 ins. This will now be driven on.

*Faith Claims.*—This property is situated about six miles from the Thistle-Etna. An incline shaft has been sunk on the reef at a distance of 130 ft. Very high values were got as soon as the old workings were bottomed at 60 ft. At 130 ft. drives north and south were put in. A pay shoot of 130 ft., averaging 23·0 dwts. over 30 ins., has now been opened up. A new vertical shaft has been started, and will shortly be available down to the 130 ft. level. Sinking will then be continued down to the next level. A few hundred tons per month of this rock will do much to raise the grade of ore going to the mill. The probable tonnage in sight above the 1st level on the Faith amounts to about 1,500 tons, averaging 23 dwts.

#### THE BELL REEF.

During the period under review the 5th and 6th levels have been extended with excellent results. A little exploratory work was done on the 4th level, but nothing new of value has been opened up. The old incline shaft has not been sunk any further, and remains at a depth of 746 feet, or 30 ft. below the 6th level. On the western section a winze was sunk to the 7th level. The new vertical main shaft is down 623 ft., and is connected with a crosscut from the 6th level. 4th Level: The pay shoot is 540 ft. in length, averaging 9·3 dwts. over 68 ins. 5th Level: This has been driven east a total length of 680 ft. from the shaft and west 130 ft. The total length of pay shoot on this level is 635 ft., averaging 10·6 dwts. over 59 ins. This includes drive widths only; at certain points the full width is not exposed. High values are reduced to 40 dwts. 6th Level: This has been driven east a total of 690 ft. from the shaft and west 170 ft. The length of pay shoot opened up on this level is 580 ft., averaging 13·2 dwts. over 51 ins.

#### Wolhuter Gold Mines.

The report of the Wolhuter for the quarter ended 31st October states that 120 stamps, four tube mills and cyanide works treated 84,000 tons. The revenue from gold was £119,254 1s. 4d., equal to 28s. 47d. per ton, and the profit for the quarter £35,367 19s. 6d., equal to 10s. 53d. per ton. Capital expenditure amounted to £3,169 8s. 3d. The recovery from all sources was 23,455,897 ozs., equal to 6,775 dwts. fine gold per ton milled. The payable tonnage developed during the quarter amounts to 84,093 tons, valued at 625 dwts. over 51·9 inches stoping width. The development in the Deep Level Section shows an improvement on the last report; 1,066 feet have been sampled averaging 5·8 dwts. over 48·9 inches. 10th Level.—Winze 1 W. in east, Main Reef Leader, continues to open up good country, 42 feet having been sunk averaging 8·6 dwts. over 50 inches. 15th Level.—Raise 1 W. in east, Main Reef Leader, has been connected with 15th level, the values for the quarter being 11·5 dwts. over 47 inches. 17th Level.—The development on this level continues good, raise 2 east, Main Reef Leader, averaging 7·2 dwts. over 50 inches for 83 feet. Winze 2 east, same reef, goes 80 dwts. over 50 inches. Raise 4 east, South Reef, has been connected with 15th level, the average for 250 feet raised being 7·8 dwts. over 45 inches. 18th Level.—Drive 3 east, South Reef, continues low since encountering the Galena Fault, but shows an improvement in the last 15 feet, the "face" value being 47 dwts. over 60 inches. Winze 3 and raise 4 east, South Reef, have exposed good values, the former being 13·0 dwts. over 46 inches, and the latter 9·9 dwts. over 50 inches. 19th Level.—Drive 2 east, South Reef, continues good, being 6·0 dwts. over 63 inches. Drive 2 east, Main Reef, averages only 3·2 dwts. over 54 inches. 20th Level.—Drive west, Main Reef Leader, continues poor, being 4·8 dwts. over 40 inches. Raise 1 east, South Reef, has been connected with the 19th level and stoping commenced. The auxiliary shaft, for the further development of this section, has been commenced, and work is progressing satisfactorily. East Incline Section.—The development in this section shows an improvement on last report; 952 feet have been sampled, averaging 7·9 dwts. over 47·7 inches. 15th Level.—Drive west, Main Reef Leader, continues good, the averages for 65 feet being 11·1 dwts. over 45 inches. 16th Level.—Drive west, Main Reef Leader, is in more settled country, 67 feet showing 8·1 dwts. over 50 inches. 19th Level.—South Reef, drive west, continues poor, 105 feet averaging only 2·2 dwts. over 50 inches. 20th Level.—The development on this level is very satisfactory. Drive west, Main Reef Leader, averages 14·2 dwts. over 50 inches for 127 feet, while drive west, South Reef, shows 8·9 dwts. over 50 inches for 100 feet. Drives east, South Reef and Main Reef Leader, continue good, the former averaging 5·9 dwts. over 50 inches, and the latter 6·9 dwts. over 46 inches. Footage Developed. Deep Level, 1,239 feet. East Incline, 990 feet; Mynpacht, 223 feet; total, 2,352 feet. Assumed payable tonnage developed or exposed during the quarter: Deep Level, 43,531 tons, assay value 567 dwts. over 52·1 inches; East Incline, 29,825 tons, assay value 760 dwts. over 56·8 inches; Mynpacht, 10,437 tons, assay value 488 dwts. over 40·8 inches; total, 84,093 tons, assay value 626 dwts. over 51·9 inches. Assumed

At 65 ft. west of the incline shaft a winze has been sunk to the 7th level (130 ft.). This averaged 6 dwts. over 40 in., which is considerably better than could be expected so far west. New Vertical Main Shaft: This is of three compartments, and is lined with steel sets; a permanent 50-foot headgear has been erected. The shaft was down 623 ft. on the 30th September. Connection was made at 563 ft. with a crosscut from the 6th level. This shaft is laid out to cut the reef at about 800 ft. vertically from surface or 1,000 ft. on the dip of the reef. Sinking is proceeding at the rate of 100 ft. per month. For August 114 ft. were sunk and timbered. The average cost to date has been £12 per foot. For the last two months it has been just under £10 per foot, less lagging being required and better footage accomplished. Ore Reserves: These stand at 42,495 tons, of average assay value of 12·00 dwts. This tonnage is based on drive and winze widths only. All high assays are reduced to 40 dwts. Nothing has been taken into ore reserves above 4th level. Plant: A plant capable of treating 4,000 tons per month is being ordered, and should be completed by the end of November, 1913. By that time the main shaft will be down to 1,000 ft., and the 7th and 8th levels should be well started. For the last six months practically no increase has been made in the ore reserves, as the 5th and 6th levels are fully opened up, and until the reef is cut at a lower point by the main shaft it is impossible, owing to water, to sink winzes on the reef. Meanwhile stope drives and box holes are being got ready for stoping operations. The prospects of this mine are very good. The bottom level shows a decided improvement over any of the upper ones, and the only winze sunk from it points to an extension westwards of profitable ore at the 7th level. For the year ended 31st August, 1912, the footage (excluding main shaft) has amounted to 2,374 ft. at a cost (including general charges) of £11,902.

unpayable tonnage.—East Incline, 10,449 tons, assay value 2·31 dwts., over 54·9 inches; Mynpacht, 6,676 tons, assay value 2·50 dwts., over 50·0 inches; total, 17,125 tons, assay value 2·38 dwts., over 52·9 inches. The payable ore reserves at date are 735,709 tons, valued at 6·30 dwts. over 51·7 inches; (partially developed), 25,215 tons, valued at 6·67 dwts. over 49·2 inches; total, 756,924 tons, valued at 6·30 dwts. over 51·7 inches. The reconstruction and building of the new section of the native compound was commenced, and work is progressing satisfactorily. The machinery and plant continue in good working order.

#### Transvaal Lands.

The adjourned ordinary general meeting of the Transvaal Lands Company, Limited, was held recently in London. Mr. W. J. Harvey presided, and explained that the meeting on October 24 was adjourned to adopt the report and accounts and consider the report of the committee then appointed. Mr. Arthur E. Franklin moved the adoption of the recommendations which appeared at the bottom of the committee's report, and urged the shareholders to persist in refusing to pass the accounts presented by the Board. The committee's recommendations took the form of a resolution authorising that steps be taken to rescind the sale of the forfeited shares to the New Belgium Company and the purchase from that company of Lydenburg shares, and that the resignation of the existing directors, other than Mr. Shattock, be required and accepted if offered, and the vacancies thus created be filled. Mr. F. Aldous seconded the adoption of these recommendations, which, after considerable discussion, were adopted, the chairman, acting on the solicitor's advice, intimating his willingness to resign.

#### MINING EXAMINATIONS.

Private individual tuition for Mine Managers', Mine Captains', Mine Surveyors', Mechanical Engineers' and Engine-drivers' Examinations. Practical Mathematics and Electro-technics. Correspondence lessons where personal tuition is impossible.—E. J. MOYNIHAN, Consulting Engineer, 35 and 36 Cuthbert's Buildings, corner of Eloff and Pritchard Streets, Box 2061, Johannesburg.

## MESSINA (TRANSVAAL) DEVELOPMENT CO., LTD.

### Projected Operations on a Large Scale—Promising Outlook.

LAST week we printed a summary of the speeches made at the Messina annual meeting. We print below the full text of the proceedings. At the annual ordinary general meeting of the shareholders, held recently in London, Mr. Arthur M. Grenfell (the chairman) presided. The Secretary (Mr. A. A. Kelsey, F.C.I.S.) having read the notice convening the meeting and the report of the auditors, the Chairman said: There are several changes in the balance sheet this year. First, our capital appeared in the balance sheet of 1911 as 200,000 shares of £1, of which 165,451 were issued, and our outstanding debentures figured at £54,210, whereas if you turn to this year's balance sheet you will see that the £1 shares have been split into four shares of 5s. each, so that our share capital to-day is 1,000,000 shares of 5s. each. I regret that the balance sheet should have been issued with a mistake, the capital having been shown as £200,000; but the mistake was so obvious that I hope no shareholder has been inconvenienced. I need hardly say that the mistake was at once rectified. You will see, too, that we have cancelled all the old debenture stock, and issued £250,000 new debenture stock bearing interest at 6 per cent. The issue was entirely successful. The debentures, as issued, carried valuable option rights, the full value of which, I think, has hardly been appreciated; but it is satisfactory to see that, in spite of market depreciation, our debentures still stand at a considerable premium. As the whole of the debenture debt represents only about one year's profits, as estimated by our engineers, the debenture stock holders can congratulate themselves on their investment. While our bills outstanding are £15,000, the ore in transit has a value of nearly £18,000. Our properties stand in our balance sheet at the absurdly low price of £141,000, and our cash balances at June 30 at £109,000, available for development, equipment and working capital. There is hardly anything else of special interest in the balance sheet. The profit and loss account shows that the ore shipments realised over £29,000. You will remember I told you last year we intended closing down the shipments altogether, but we found it advisable, after all, to continue shipments of ore from development, and the ore has been of such grade and the price of copper so satisfactory that we have realised this large sum from development work without in any way hindering the blocking out of ore preparatory to our starting operations on a large scale this next year. We carry forward to the balance sheet a debit of £10,000 as the charge for all our work during last year—a very satisfactory figure when you consider the developments reported by Mr. Calderwood in his clear and able report.

#### A FEATURE OF THE REPORT.

Mr. Calderwood, in his report, has given you such an exhaustive survey of our operations that anything I have to say can only be a repetition of his statements. A feature of our report this year is the excellent plan of our properties attached at the end. You will see that in our properties are coloured in red, and that it also indicates the position of the railway line to the mine and the proposed extension to the Rhodesian border. We have also attached a plan of the mine, which clearly shows the developments on each of the four lodes at present worked. I would point out that the shaded portions represent the sections from which ore has been extracted, and these, together with the ore taken from development drives and winzes, have been responsible for a production of copper which has realised a gross value of approximately £280,000. In all we have mined, to June 30, 1912, a total of 76,135 tons of ore, from which we have produced 10,861 tons of copper concentrates, having an average assay value of 52½ per cent. copper. Every ton of this has been transported from the mine to rail-head by donkey wagons, and is an interesting performance, and the best evidence of the tenacity, energy and foresight of our local staff. If they have been able to do this with donkey wagons, which can only hold about three tons each, we may surely expect great things when the donkeys are replaced by steam engines, and instead of three tons per wagonload, we may have 1,000 tons per trainload. The small amount of shaded ground, as shown on the plans, from which the ore has been stopped, compared with the large areas opened out by development, forms an interesting example, and it must be remembered that practically all this development has passed through and exposed high grade ore bodies. On the north lode the drives extend east and west for a distance of about 1,600 ft., and on No. 1 north for about 500 ft. Both these lodes have been opened to a depth of over 300 ft. On the middle lode lateral development extends for about 700 ft. to a depth of 400 ft., and on the south lode for about 1,000 ft. to a depth of 350 ft. This makes a total distance actually proved along the strike of the lodes of 3,800 ft.—nearly three-quarters of a mile long. A strong feature of our development is the consistent average assay value of the ore, namely, 10 per cent. copper. This applies to all ore throughout the mine which has been sampled. During the year a total of 6,781 ft. was driven, raised and sunk in the various workings. Of this footage, 2,500 ft. has been actually driven on the lodes, of which 1,533 ft. gave an average assay value of 13½ per cent. copper over a width of 5 ft. This is regarded as one of the most satisfactory feature of the development operations during the year.

#### DEVELOPMENTS ON THE NORTH LODE.

In regard to the development on the north lode since last year's report, the consulting engineer states: "A most important enrichment occurred at 5th level, whereby the granite has become highly altered and mineralised from wall to wall of the lode for a width of 75 ft. A crosscut through the ore body gives an average assay value of 19½ per cent. copper for this width, the values being fairly uniform through-

out. As will be noted from the table of assay values, the 5th level for 236 ft. sampled averages 23½ per cent. copper, which is an exceptionally high average for such a continuous footage." And, further, with regard to the 8th level: "The shaft and hanging wall portion assays 18 per cent. copper for a distance of 120 ft. and the footwall portion assays 13½ per cent. copper for 150 ft. sampled. Since the end of the year a crosscut has been put through the footwall portion, exposing lode for 50 ft. in width, having an average assay value of 12½ per cent. copper. The hanging-wall portion at shaft shows a width of 27 ft. of ore, assaying 17 per cent. copper, making, with the footwall portion, a total width of 77 ft. of ore, averaging 14 per cent. copper." The development of the other lodes in the mine has been equally satisfactory. The next item I wish to touch upon is that of coal. Scarcity of labour and transport has prevented us from energetically opening up the coal mine to supply Messina with quantities suitable for all steaming purposes; but a certain amount has been used, and found to steam well. The South African Railways have quoted us a reasonable rate on coal from the Witbank Collieries, so that we have two sources of supply. We have decided, in view of the very favourable outlook for a permanent mining industry, to establish ourselves on a sound basis at the mine as regards buildings, plant and machinery. We have passed the "grass hut stage" for housing our native employees, and the row of comfortable mosquito-proof cottages we have recently erected for married quarters and staff are greatly appreciated by the employees. A new cottage hospital has been erected on the most approved lines, under the direction of our resident medical officer, and we have equipped an up-to-date dispensary and operating room, with the most suitable and up-to-date appliances, to meet local conditions.

#### THE WATER SUPPLY.

The important question of an adequate water supply is also one which has received our attention, and we are now installing a pumping plant at the Zand River, about four miles distant from the mine, which will have ample capacity for our boilers, compressors, concentrating plant and general camp requirements. This, together with our dams and mine water, will insure us against a shortage when operating on the large scale outlined for next year. We are installing a central electrical generating station at the mine for the purpose of supplying power to the motors which will drive the mill machinery and pumps and also furnish electric lighting at surface and underground. Reference has been made in the report to the sinking of a new hauling shaft—No. 5—which will be equipped with a steel headgear, ore bins and usual appliances. The new winding engine for this shaft will have ample capacity to hoist a total load of seven tons from a depth of over 2,000 ft., and will be used entirely for ore hoisting purposes. This new shaft has been arranged to work in conjunction with our present No. 4 shaft, which is also well equipped. We shall be enabled to keep our sinking and developing operations going on simultaneously, and keep pace with our milling requirements. The first part of the programme we laid down last year has been practically carried out as regards the mine, and the equipment is well in hand. Although we have laid down our new plant for the treatment of ores by concentration methods, with the view to making large shipments of high-grade copper concentrates, we have not overlooked the important question of smelting. In fact, we have decided to instal at once a small smelting plant, which will be used for experimental purposes, and at the same time on a sufficiently practical scale to allow for an output of smelted matte or copper. The question of smelting concentrates, middlings, and also the ore direct will receive attention, as fuel and fluxes can be obtained without difficulty and at reasonable cost. We have sufficiently proved already that our ores present no metallurgical difficulties for successful treatment; and we have obtained the advice of well-known metallurgists in this connection.

#### ORE RESERVES.

The figures given in the report, namely, 170,000 tons of 10 per cent. copper ore blocked out within the developed sections for reserves, must be considered conservative. The probable and possible ore estimates are in a fair way towards realisation to the 10th level, and we shall find the ore bodies continuous, without doubt, to a much greater depth. I have no doubt the developments will show that we have a great deal more ore in the mine down to the 10th level than the estimate of 500,000 tons. Each foot of development in depth adds to the value of the mine to a much greater degree than in a lateral direction, and the prospects for continuation in depth must be regarded as decidedly good. If we roughly figure on, say, a profit of £2 per month of ore, with best selected copper at £75 per ton—yesterday's price was £82—we have in round figures a total profit of £1,000,000 when the mine is developed to 1,000 feet in depth, and milling operations are carried out on the scale outlined. It may have been noticed that in former reports we have estimated that the cost of delivering concentrates at Swansea has been on a basis of £3 per ton. We are taking a more liberal figure in our new estimates, and allowing a much higher figure. The reason for this is that, until the scheme of development is completed, we are applying a higher figure for development redemption per ton of ore actually mined than formerly. The mine development stands at £35,945 10s. 1d. in our books which equates about 5s. 6d. per ton of ore in reserve. This will be reduced in the course as development proceeds. Then, again, the railway charges from Messina to Delagoa Bay will be somewhat higher than former estimates, as the length of the line actually constructed will be longer, and the railway rates over the newly constructed portion will be higher for a start. Again, we have based our estimates on a

concentrate of 40 per cent., instead of 43 per cent.; so that we have, and I think quite rightly, made allowances to keep well on the safe side. The above affects the net results, and when I mentioned that we are today landing our small shipments of concentrates in Swansea at about the same cost as allowed for in our estimates for future production (which, as you know, is to be on a very much larger scale of output), as, owing to the satisfactory results obtained during the year and the favourable outlook of the mine generally, it has been decided to further increase the output of ore to 12,000 tons per month, it will be realised that we should have quite a safe margin, as far as actual costs are concerned, and this will help to compensate us in the event of a fall in the market price of copper. In preparing estimates of this kind there are necessarily many factors to be considered which enter into costs, which cannot be accurately determined, and therefore a safe margin has to be allowed for contingencies.

#### ESTIMATE OF PROFITS.

After making such allowances, you will see that Mr. Calderwood estimates that with the completion of the new mill and works, and given railway facilities, the profit resulting from milling 120,000 tons should be £240,000 per annum, based on a market price for best selected copper of £5 per ton. This may appear to some of you as rather a bold estimate; but few of you probably realise that we have been working for nearly ten years to bring Messina to this stage, and the more we get to know of the property, and the nearer we get to having a chance of demonstrating its true value, the more confident we are that our estimates will be proved to be conservative. All we require are railway facilities. This rich region of the Transvaal has been starved and neglected up to date, but the rails are creeping up, and we hope that before next summer they will have reached us, and you may be sure we shall be ready to take full advantage of their arrival. The estimates just referred to relate to the work at Messina mine alone. Work has been concentrated here; but it is beyond question that other discoveries will be made in other parts of the property having large runs of ancient workings adjacent to the present mine. A certain amount of prospecting work has been done in the past both east and west of the mine, which has proved the continuation of the lodes. The extent and character of these ancient workings lead to certain conclusions in this respect. Then, again, the farm Vogelzang holds out enormous possibilities for exploitation, with its important groups of old workings, as will be seen on the plan showing our properties. On this farm we have already proved the existence of rich copper glance by means of prospecting shafts down to a depth of 100 ft. at several points. This valuable farm demands attention in the near future, and it is of interest to mention that the railway line will pass close to the largest workings. With such lodes so distinctly developed over great distances on Berkenrode and Vogelzang, it is a safe guarantee that they will not suddenly disappear, but show themselves continuous in depth, as we have so satisfactorily proved at the Messina mine to a depth of over 800 ft. The farms Maryland and Templehof have not yet been examined beyond the fact that copper-bearing formation has been found there, and several small old workings indicate that copper exists. Generally speaking, it appears safe to predict that in time we should have at least four large copper-producing mines on our properties, of which the present Messina is the first; that is reckoning on the farms Berkenrode and Vogelzang alone. With a group of producing mines and a railway line connecting each one, the prospects for establishing a large copper industry are certainly attractive, and with our own smelters established for treatment and refining our own copper we should, in time, become an important factor among the large copper producers. This may seem an ambitious scheme; but, in my opinion, it is quite within the range of possibility.

#### COPPER OUTLOOK.

The outlook for the copper industry at the moment is decidedly encouraging. There is no other metal, iron excepted, which is of such general importance as copper, and it therefore occupies the position in the commerce of metals of great magnitude. The wide demand and the increasing uses for the metal are reflected in the production figures. It is satisfactory to note that the price of the metal has shown an advance since the beginning of the year, though fluctuations, of course, occurred. In January we notice quotations at £62, March £68, June £73, and August £79 6s. 3d. for standard cash, and yesterday £76 5s. Our copper sales are made on the basis of best selected copper, which is £5 higher than the market price for standard. One reason for this is the demand for our ores owing to their being free from inurities and the average high grade of the concentrate we have shipped and maintained since the start of our operations. Information obtained from the most reliable sources indicates that the price of copper is likely to be maintained at about present average prices for probably the next two years. We are therefore striving to be in a position to take all the advantage possible of prices which will enable us to make substantial profits, and it is our intention to increase our production from time to time as circumstances warrant and permit. In summing up, and, at the same time, referring you to the general report and balance sheet, I am of the opinion that the Messina holds out the best possible prospects for a profitable producer, and there is every reason for congratulation on the state of the mine, for it is in a very excellent position. I have also to add that there are still large sections already referred to which we have not yet properly developed, and as soon as we can take these in hand I have no doubt that developments will show that we have a larger tonnage per level than has been allowed for in our estimates. The latest cables inform us, with regard to the railway, that the line is now open for traffic to Louis Trichardt, which places us about sixty miles from railhead. On middle lode 2nd level, west of the dyke,

the lode has been exposed for a distance of 10 ft. driven, assaying 15 per cent. copper over a width of 6 ft. This information is important, as we have now proved the ore body west of the dyke on the 1st, 2nd and 3rd levels. On the 4th level 250 ft. west of No. 4 shaft, that is well beyond the western section of the Bonanza, a crosscut north has been put in, and has cut the lode assaying 8 per cent. copper and having a width of 8 feet so far exposed. This is also a very important development, proving the continuation to the west of the north lode proper. I take the opportunity of Mr. Calderwood's presence here to-day to assure him, on behalf of the shareholders, of our great appreciation of the services he has rendered to us. In the days when Messina was considered a sporting prospect, Mr. Calderwood strengthened us in our belief in the property by his confidence and by the businesslike way in which he laid out the work. If Messina becomes as important as some of us expect, I hope that future shareholders will remember, as all present shareholders are sure to do, that it is in a great measure due to Mr. Calderwood that the wilds of the Northern Transvaal are to become the hub of a big industry. I heartily endorse Mr. Calderwood's appreciation of the services rendered by Mr. Woodburn and his able staff of assistants, who have worked so loyally and so well for us during the past twelve months. Our thanks are also due to Mr. Stuart for the efficient manner in which he has represented our interests in Johannesburg. I will now ask Mr. Calderwood to address a few remarks to the meeting, and then I will move the adoption of the report and accounts.

#### MR. CALDERWOOD'S VIEWS.

Mr. J. M. Calderwood (consulting engineer) said: The annual report and the speech by your Chairman leaves but little to add regarding the property, its present position, and future prospects. When I first visited the mine, in the year 1905, only the 1st level on the south lode had been opened, and since that date I have been directly connected with the property and watched its gradual growth and expansion to the satisfactory position we find it in to-day. The development of an ore deposit of this nature has not been free from anxiety. We have had at times, apart from the usual difficulties attending mining operations situated so far from railhead, to persevere when faces have been in country rock and unprofitable lode matter, but these have been passed through and the lodes have opened up very well indeed. We have now to a great extent verified the opinions expressed at various times regarding the behaviour of the ore bodies both laterally and in depth. The confidence and support of the directors has all along been highly appreciated, and encouragement from this quarter has never been lacking. The position of the mine to-day is that we have profits in the shape of a large tonnage of high-grade ore standing in the mine ready to be worked that will pay back the debentures and leave a substantial sum for shareholders in addition, even if no further development is done, based on the present market price of copper, which, it is hoped, will be maintained for some time. In order to prepare for a large output several factors had to be carefully considered, the chief and most important being a large ore reserve and a railway connection. Until these had been practically assured we delayed the purchase of plant and machinery. The new mill and electrical plant are now being erected, and we have ordered a large winding engine and headgear for our new No. 5 shaft. The question of an adequate water supply for future requirements, independent of pumping from the mine, has also received careful consideration, and we have decided upon the installation of an electrically-driven pumping plant, for which the order has been placed, together with pipe-line, etc. The necessary expenditure for all this plant had to be justified by the condition and prospects of the mine.

#### THE LIFE OF THE MINE.

I am pleased to say the first part of the programme laid down is well advanced. The question has frequently been asked: "What is the life of the mine?" On the Witwatersrand, with the regularity of the deposits and the fairly sound assumption that the blanket reefs will maintain their width and value throughout a given claim area, it is possible to calculate the life of the mine with the ratio of output. At Messina, where the lodes are almost vertical, and the ore is confined, more or less, to ore shutes in veins of fissure type, having a variable width both vertically and horizontally, calculations as to tonnage cannot be made with the same latitude and degree of certainty as on the Rand. If the visible life is considered—that is, the length of life based on the ore in sight—we had about a year and a half's ore supply ready at the end of June on a milling basis of 120,000 tons per annum. This may seem a comparatively small reserve; but it must be remembered that ore is being rapidly placed to reserves with every foot of development going on, and that the probable ore, which is placed at 210,000 tons to the 8th level, includes a considerable tonnage of partly developed and exposed which will be fully developed when the new mill is ready for crushing. When this stage has been reached it will continue to be our policy to increase the ore reserves by vigorous development and keep pace, at least with the mill requirements. In the report a round figure of 500,000 tons has been given for the ore tonnage down to the 13th level. If we take the theory that the depth of fissuring is more or less proportionate to its length, and consider the various geological factors observed at the 800 ft. level, together with the width and value of the ore bodies, it does seem reasonable to expect that the deposits will extend to a depth of 1,000 ft. Then, again, we have ample evidence that fissuring extends far beyond the points actually exposed by the underground development drives, so that there are still large sections of ore-bearing ground to be opened. Admitting that the visible life of the mine is limited to the time required to exhaust the ore reserves, we are, however, laying down plant and equipment for a much longer life, with the confident anticipation that we shall be calling for a still larger plant at no distant date. I refer particularly to the Messina

mine; but it must be remembered that we have other valuable properties, especially Vogelzang, which has already been referred to by the chairman.

#### TOTAL VALUE OF ORE PRODUCED.

Although the company has so far been a developing concern, yet reference to the total value of the production of ore and concentrate from January, 1903, to June, 1912, is of some interest and importance when it is remembered that from 76,135 tons of ore we have produced 10,861 tons of concentrate for shipment, every ton of which had to be transported to railhead at first, a distance of about 130 miles, which was later reduced to 130 miles by the construction of a new road, and now to about 60 miles, and gradually getting shorter as the railway advances. These shipments have realised a gross value of £200,000, equal to £25 15s. 7d. per ton. The market price of copper during that time has, on the average, been low. Regarding the treatment of our ores, they present no mechanical or metallurgical difficulties either for concentrates or smelting, as we have conclusively proved. The question of treatment has been carefully considered, and while we shall continue shipments of concentrate, in the first instance, we shall gradually work up to smelting as conditions permit. We have decided to push on with the erection of all new plant, and, while a certain saving would have been made by waiting for railway connection, and thereby obtain cheaper transport cost, yet this is offset by other advantages to be gained by having the mill in readiness for a large output when the line reaches Messina. A glance at the map will show that the line is not likely to remain long with Messina as the terminus, and it is only a matter of time when the line will be linked up with the Rhodesian system. I should like to add, in conclusion, that the outlook is very promising indeed as regards the mine, and developments have come quite up to expectations. I can see no reason why the estimates outlined for production and profits should not be realised. My long connection with the mine, knowing its characteristics and possibilities, and its performance in the past, enables me to make this statement with confidence. There is one factor which has to weigh in with a certain amount of risk when framing estimates of profits; I refer to the price of copper and the fluctuations in the price of the metal. These have no bearing on the actual working costs. In this respect we have a certain amount of assurance that prices will be better than last year's, and likely to be maintained for some time; so that we can look hopefully to starting the new plant with a certainty of earning large profits.

#### LATEST CABLE NEWS.

A cablegram has just come in from the mine, which informs us that the west drive beyond the dyke is looking well and showing copper glance. On the 7th level, which we have just recently opened, a crosscut has been put through the lode assaying 53 per cent. copper for a width of 20 ft. of ore exposed. On the 8th level we have started sinking a winze, and on the footwall section, which is now down 5 ft., the ore assays 10 per cent. copper. We are still continuing our shipments out of development ore, and also a small amount of stoping to keep the mine in readiness for operations, and the output for the month of October is cabled as 239 tons of concentrate, which averages 49·60 per cent. copper, and we have done in footage 761 ft. of development. Mr. Chairman, I must thank you very kindly for the reference you have made to me in your speech, which I assure you is greatly appreciated, and also on behalf of the staff in South Africa.

The Chairman then formally moved: "That the directors' report, together with the balance sheet and accounts for the year ended June 30, 1912, be, and are hereby, adopted."

Mr. R. J. Freekville seconded the resolution, which was carried unanimously.

The Chairman also proposed the re-election of Mr. R. J. Freekville (the retiring director), which was seconded by Mr. John P. Grenfell and unanimously agreed to.

Messrs. Allen, Biggs & Co. were reappointed auditors, on the motion of Mr. Fry, seconded by Mr. Titcomb.

#### THE NEW MILLING PLANT.

Mr. Titcomb asked what was the estimated recovery possible from the new milling plant?

Mr. Calderwood said that they reckoned on saving from 75 per cent. to 80 per cent. of the values by concentration methods alone, and on that basis their estimates had been framed. At the moment they did not treat the tailings and slimes, which were accumulated in dams. They were putting in a plant with their new concentration works which would treat the slimes to a certain extent, and which would probably add another five per cent. recovery to their present basis.

Mr. Titcomb remarked that that seemed to be an exceptionally high saving for such a friable ore as that of the Messina.

Mr. Calderwood stated that the ores were so clean and so amenable to concentration that he did not anticipate any difficulty in getting at the very least 75 per cent., and, by very close concentration, probably up to 80 per cent.

Mr. Titcomb asked what would be the probable cost of the proposed smelting plant?

Mr. Calderwood replied that it was estimated that the cost would be about £15,000 for the concentrator, the slimes reduction plant, and the regrinding plant, and there would be an expenditure of another £15,000 on new headgear, winding engine, pumping plant, and electric light. This would bring the total cost up to about £30,000.

Mr. Titcomb said he thought the shareholders ought to be very well satisfied with the report which had been issued, and also with the interesting addresses of the chairman and Mr. Calderwood. The mine was shaping magnificently, and, speaking as a shareholder, he was very pleased with it. Everything seemed to be successful, and he confidently looked forward to the estimates of the engineer being realised. With reference to direct smelting, perhaps that question had not received the attention it deserved, although he might be mistaken. He had read the reports which had been issued, and, having regard to the fact that there was no trouble with the ore, and that it could be easily treated, he considered that a recovery of about 90 per cent. was probable. It struck him that, in the case of copper ore which was friable and high-grade, and which presented no difficulties in smelting, it would be advisable to consider at once the question of direct smelting.

Mr. Calderwood, in reply, said that he board had already placed an order for a reverberatory smelting furnace, and he was going to Wales within the next few days for the purpose of investigating smelting, and also probably to engage the services of an up-to-date smelting man. The reason why they had not gone in for smelting was that they had been waiting for the advent of the railway to enable them to obtain fuel and fluxes. In regard to both those matters, they did not see any outstanding difficulties, and he could assure Mr. Titcomb that the question of smelting was receiving all the attention that was necessary at the moment.

The proceedings then terminated.

NOTICE No. 1948 of 1912.

## MINERS' PHthisis BOARD.

## WARNING.

IT has come to the notice of the Miners' Phthisis Board that certain cases have occurred in which money has been obtained from applicants to the Board by persons falsely representing themselves to be in a position to forward or facilitate their application, and that in one case at least a miner has been induced to pay as much as £23 for this purpose. Applicants are earnestly warned against paying or promising anything whatever to such persons, and are requested to note that no advantage is gained under any circumstances by approaching the Board through other than the ordinary channels. The Board does not give prior consideration to any agents, but every application is dealt with in its turn.

H. WARINGTON SMYTH,  
*Secretary for Mines.*

## MINING MEN AND MATTERS.

Mr. F. P. Rolfe has resigned from the Consolidated Langlaagte Mines.

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Mr. Douglas Christopherson and Mr. E. Berkenthun, of the Consolidated Gold Fields, have returned to the Rand.

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Mr. J. W. H. Stubbs has resigned from the position of joint technical adviser to the General Mining and Finance Corporation. Mr. R. Pill is now the technical adviser to the group.

\* \* \* \*

The following scholarships, etc., have been awarded on the results of the diploma examinations held in connection with the South African School of Mines and Technology in November: Chamber of Mines Gold Medal and Research Scholarship of £250, Mr. M. O. Baumann; Hennen Jennings Scholarship of £80 per annum, Mr. T. O. Leslie; Nemunian Group Scholarship of £80 per annum (renewal), Mr. H. L. Abrahams; Barnato Group of Mines Scholarship of £80 per annum (renewal), Mr. E. L. Damant; Institute of Mine Surveyors (Transvaal) Prize of £2 10s., Mr. L. Hingle.

Tell advertisers you saw it in the *South African Mining Journal*.

## THE YEAR WITH THE LUIPAARDS VLEI ESTATE.

### Higher Average Grade—Increased Ore Reserves—Changes in Management.

The report of the Luipaards Vlei Estate and Gold Mining Company, Ltd., for the year ended 30th June, 1912, presented at the meeting on the 11th inst., states that the net profit is £19,618, and this amount, added to the sum already standing to the credit of profit and loss account, increases it to £100,227. In compliance with the recommendation of the manager, the sum written off for depreciation is £13,305, leaving a balance of £86,921, which is carried forward. This credit to profit and loss account is represented to a large extent by the additions which during the last few years have been made to the general equipment of the mine and to the property. The Debenture debt has been reduced during the year by £8,070. The revenue from the company's estate under the heading licenses, rent, etc., has totalled £11,109. Since the close of the financial year certain changes have been made in regard to the management, which were advised to shareholders in a circular issued by the Board under date of 26th August last. The arrangement with the Consolidated Gold Fields of South Africa, Ltd., was terminated by mutual consent. In connection therewith Mr. W. R. Tait resigned his position as manager. Mr. C. B. Saner was appointed manager in his stead, and took up his duties at the end of July last. Mr. D. Christopherson and Mr. T. Douglas have resigned from the local committee. The new appointments on the local committee are those of Mr. J. Andrew Cohen (chairman) and Mr. G. C. Fitzpatrick. The secretarial work both in London and in Johannesburg has been taken over by the Transvaal Agency, Ltd. During the past year 199,144 tons of ore were treated, being at the rate of 9,615 tons per stamp per working day. The yield from all sources was 19s. 11 947d. per ton, which includes 1s. 9 632d. per ton obtained by the treatment of the accumulated Windsor slimes. The treatment of these slimes was virtually concluded in February last, the total profit obtained under this heading over several years amounting to £21,184. Working expenses during the year averaged 17s. 11 800d. per ton, which includes a development redemption charge of 3s. per ton crushed. The working expenses also include 10 373d.

per ton, being the cost of treating the accumulated slimes. Of the ore milled 51 1/2 per cent. came from the Windsor section and 48 1/2 per cent. from the Luipaards Vlei section. The main reef has contributed 69 64 per cent., the south reef 18 01 per cent., and 12 35 per cent. was derived from development rock. The total recovery from ore milled equalled 93 18 per cent. of the gold contents. Since the close of the financial year the main reef has been encountered in a crosscut from the south vertical shaft at a point 200 ft. below the 20th level, showing a value of 10 dwt., over 68 ins. At this point the 21st level has been started, and driving both east and west has shown the main reef to be of good width and of satisfactory values. As this level is the deepest point in the mine particular importance attaches to it. The work done in the mine during the last six months has generally shown a tendency towards a higher average grade; in particular it is satisfactory to note that on the 16th level east and in a rise from that level good values have been met with. This portion of the mine is situated between the Luipaards Vlei section and the Windsor section, and forms a large area which has so far not been explored. The results for the quarter ended 30th September last show that the profit amounted to £9,712, as against £4,626 for the preceding quarter, the grade of ore being £1 Os. 6 486d., compared with 17s. 11 644d. Mr. Saner has re-estimated the ore reserves as at 30th June last as follows:—Fully developed, 500,471 milling tons of an average assay value of 5 72 dwt. per ton, 297,321 tons of an average assay value of 3 20 dwt. per ton; partially developed, 186,419 milling tons of an average assay value of 5 89 dwt. per ton, 79,538 tons of an average assay value of 3 54 dwt. per ton. This shows a considerable addition to the ore reserves as reported last year. The working of the mine has been handicapped by shortage of labour, the average number of natives available during the year being 1,101 against a full complement of 1,500. Important changes are being instituted in regard to the recruiting, payment and housing of natives. The Board are advised that the steps taken will result in a better and more efficient supply.

### Nourse Mines.

The directors' quarterly report for the three months ended 31st October states:—To Government Tax (estimated) for the three months ended 31st October, 1912, £6,965; balance carried to balance sheet, £27,041; total, £34,006. By balance brought forward, 31st July, 1912, £23,424; balance of working expenditure and revenue account for three months ended 31st October, 1912, £75,582; total, £104,006. The credit balance of appropriation account is not wholly available for distribution. The capital expenditure for the three months ended 31st October, 1912 (£217 for new construction, etc., and £403 in respect of undermining rights annuity), has not yet been appropriated. The amount to be transferred from appropriation account will not be determined until the end of the financial year and after it has been decided what dividends are to be declared. Number of feet driven, sunk and risen, exclusive of stopes, 7,532 feet. The reef disclosures were as follows:—Main Reef: Distance exposed, 975 feet; width, 42 inches; assay value, 51s. 11d. Main Reef Leader: Distance exposed, 2,145 feet; width, 14 inches; assay value, 52s. 1d. South Reef: Distance exposed, 1,936 feet; width, 17 inches; assay value, 50s. 1d. Ore received from mine, 199,645 tons; waste sorted out, 35 1/2 per cent. tonnage crushed, 167,500 tons; number of stamps operating, 20; number of tube mills operating, 7. Value of ore before crushing (reflected by mill yield and value of pulp): Mill yield per ton, 21s. 1d.; assay value of pulp, 6s. 9d.; total, 29s. 10d.; total yield, 58,175 lbs. fine; assay value of pulp, 6s. 9d.; total, 29s. 1d.; accumulated slimes, tonnage treated, 3,251 tons, yielding 546 ozs. fine. The total development work accomplished shows an increase of 289 feet, when compared with the previous quarter. The reef disclosures were satisfactory. Sinking was commenced in the new incline from the 20th level, South Nourse. The west incline was dewatered, equipped with heavy rails, and a new level started for developing ore. A continuance of the profits earned recently can be expected, provided the native labour force is kept at an adequate figure. There was, however, a reduction monthly in the number of natives during the quarter, and the shortage is now making itself felt. The total number of natives in the company's service at the end of October was 4,285 as against 4,805 at 31st July, 1912. Capital expenditure for the quarter has been as follows: New construction, £247 10s. 9d.; undraining right annuity, £406; total, £655 10s. 9d. There is an amount of £22,759 yet to be expended on the present capital

expenditure authorised, which is mainly for the equipment of No. 2 shaft, South Nourse section, and connection of the shaft with the batteries. This amount does not include any provision for development in connection with the South Nourse section, the board having decided to charge all expenditure underground to working costs. This procedure has been followed during the current financial year. The action brought against the company by the Union Government for the recovery of a sum of £1,292 8s. for additional tax on profits has been decided in the company's favour, with costs.

Discussing Mr. Rickard's views on the value of Rand Banket in depth, Mr. G. E. Collins writes:—"Speaking generally, I would say that while the great majority of individual cases justifies the conclusion that mines do become poor in depth rather than the reverse, I deprecate drawing from these individual cases general conclusions as to the actual distribution of ores, from the standpoint of the geologist. From a commercial point of view, the miner does well to proceed with caution from the known to the unknown; the engineer cannot be too sceptical as to the indefinite continuance of ore bodies. Economically, Mr. Rickard is doubtless justified in choosing the gold contained in the first thousand or so feet on the Rand, in preference to that in the next ten thousand; but the quantity actually there is another question. In fact, the entire discussion seems to me rather academic."

### INVESTORS' DIARY.

The following company meetings have been announced:—  
Dec. 20.—Breyten Collieries; Elandsfontein Estate Co.  
Jan. 24.—Witbank Colliery.

# Rhodesian Section.

## LATEST MINING NEWS.

### The Falcon's Plant—Development at the Lonely—The Giant Company's Report—The Small Workers' Association and Nyasa Labour—Eldorado Outputs and Developments—The Empress-Palmeira—Katanga Mineral Statistics.

It is announced that the Board of the Falcon Mines, Ltd., has placed an order for 36 heavy Nissen stamps for the mine, delivery to be effected at an early date. It is hoped to deal with 15,000 tons monthly, and the design provides for crushing and concentrating plant, sintering plant, blast furnace, and converters. On present calculations, the Falcon should be crushing about the end of next year.

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The Board of the Lonely Reef G.M. Co. in London has been informed of the following development work carried out at the mine during October:—No. 6 level south drive, from 535 to 570 ft. average width of reef is 17 in. assaying 17 dwts. No. 8 level south drive, from 300 to 360 ft. average width of reef 56 in. assaying 1 oz. 9 dwts. No. 9 level south drive, from 95 to 130 ft. average width of reef 44 in. assaying 4 ozs. 17 dwts.

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The report of the Giant Mines of Rhodesia, Limited, for the year ended June 30 last, shows a net profit of £111,816, or, with £42,852 brought in, £154,668. Of this amount, dividends amounting to £98,720 were paid during the financial year. From the balance available the directors have transferred £20,000 to reserve account, making the amount set aside under this head up to £70,000, and have written off the cost of boring operations during the year, amounting to £7,755, leaving a balance of £28,191 to be carried forward. Two further dividends, each of 2s. per share, less income-tax, have since been paid.

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Mr. Gordon Dickson, consulting engineer of the company, after detailing the results of diamond drilling operations, writes:—"Stoping.—During the period under review stoping has been confined principally to the ore left above the 6th and 7th levels. In the stopes above the 7th level the shoot has been opened up for a length of 360 ft. at 30th June, and a large proportion of this ore has been sent to the mill. Ore Reserves.—The total tonnage of ore in reserve at the end of the financial year stood at 213,687 tons of an average value of 8·2 dwts. per ton; of this tonnage it is calculated that 71,304 tons are broken in the stopes. Owing to the intrusions of dyke and ironstone the estimation of tonnage and value is becoming more difficult. The depreciation in value per ton is largely due to the shrinkage system of stoping, which does not permit of excluding the great quantity of intrusive and barren rock in the stopes. Also there is a considerable amount of hanging-wall rock which unavoidably mixes with the ore, due to the bad standing nature of the country rock. Milling Results.—The following gives details of these results:—Tons crushed, 134,209; days run, 34220; duty per stamp, 13·07; gold won per ton, £1 12s. 11·929d.; profit per ton milled, 19s. 1·499d.; value of gold per ounce, £4 4s. 10d.; recovery of gold per ton, 7·770 dwts.; theoretical extraction, 83·21 per cent.; actual extraction, 81·61 per cent.; fine gold recovered, 52,116 ozs. Working Costs.—The following shows the actual working costs for the year:—Mining, including development redemption, 7s. 9·220d.; sorting, crushing and transport, 10·004d.; milling, 3s. 9·018d.; general charges at mine and Salisbury office, 1s. 6·188d.; total, 13s. 10·430d. Profit for the Year.—The total value of gold won was £221,405; less working costs, £93,068; leaving working profit, £128,337. Ore Treatment.—The experiments made with Wilfley tables did not prove successful, owing to the

large percentage of concentrates in the ore and their low value. On the other hand, the additional blanket strokes tended to increased recovery of gold and an improvement in extraction, making allowance for a reduction in grade as compared with the previous term. Conclusion.—On the whole, the results of boring can be considered of a very satisfactory nature, and we have gained such important information as to fully warrant the belief that, by following up the present favourable indications, the much desired success will be met with. The prospect of proving further lenses of ore between the Giant and Giant South workings are decidedly promising, there being a total length of approximately 2,500 ft. on the strike of the lode which is known to be gold-bearing, but is practically unexplored for more than a few feet below the surface. A series of boreholes will be put down at intervals of 200 ft. to test this ground.'

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The monthly meeting of the Rhodesian Small Workers' and Tributaries' Association was held at Flander's Hotel, Hartley, on Saturday last, the 7th inst., Mr. E. A. Begbie occupying the chair. There were also present: Messrs. W. McD. Stokes, F. N. Hamby, C. H. Perry, F. Young, J. McNeill, J. Clarke, A. C. Morrisby, C. H. Wheildon, I. J. Minnaar, J. Folkestad, and E. Searle. Following on a letter from the R.N.L.B. stating that owing to the high death-rate amongst natives recruited by the Bureau in the Luapula circle of North-Eastern Rhodesia, His Honour the Administrator had prohibited further recruiting in that district, the chairman proposed, and Mr. Minnaar seconded, that the secretary be instructed to write to the Department of the Administrator asking that the question of the right of the R.N.L.B. to recruit natives for the industries of Southern Rhodesia in Nyasaland be re-opened. In bringing forward this request the Association would point out that the present embargo placed upon the natives of Nyasaland desirous of seeking employment and re-engagement in Southern Rhodesia is a distinct interference with the rights of the subject. Further, that such restrictions, enforced for the benefit of the settler in Nyasaland, is an obvious form of forced labour, and, as such, opposed to all principles of British administration.

\* \* \* \* \*

The following is a summary of a report which has been submitted to the Board of the Cam and Motor Company in London by mail:—Motor Mine: No. 5 level, main south drive: This has been advanced a further 20 ft., to a total length of 321 feet. The values for the 26 ft. advanced average 8·8 dwts. over an average width of 76 in. Cross-cut W. 305 ft. S. of No. 1 shaft: This was started and extended to a total length of 8 ft. The total payable width of lode here now stands at 186 in., averaging 7 dwts. Cross-cut W. at 255 ft. S. of No. 1 Shaft has been extended a further 14 ft. to a total length of 17 ft. The payable width of lode so far proved at this section of the mine is 19 ft. 6 in. averaging 8·7 dwts. Cross-cut E. 105 ft. S. of No. 1 Shaft: This has been extended a further 14 ft. to a total length of 75 ft. Winze at No. 1 Shaft: This has been sunk a further 20 ft. to a total depth of 58 ft. The values for this 20 ft. sunk average 12·3 dwts. over 81 in. It is worthy of note that the values here are improving, and that at 50 ft. they averaged 15·1 dwts. over 80 in., and at 55 ft. 22·3 dwts. over 84 in. Subsequently the following cable

was sent from the mine: "No. 6 level, east cross-cut off south drive at 105 ft. south exposed 120 in., average value 7½ dwt., present face assays value 12 dwt."

\* \* \* \* \*

During November the mill of the Eldorado Mine ran 29 days; Chilian mill ran 28 days; crushed 7,413 tons; yielding 3,607 ozs. fine gold. Cyanide treated, 7,489 tons; yielding 802 ozs. fine gold. Total recovery, 4,409 ozs. fine gold, valued at £18,755. Estimated profit, £10,157. Average value of screen assay, 12 dwt., 20 grs. The following is a copy of a cable which was despatched from Bulawayo to the London office of the company a few days ago:—No. 10 level main drive East off No. 1 main winze, from 25 ft. to 40 ft. assaying 2 ozs. 17 dwt. per ton over 72 in., reduced 32 dwt.; reef not fully exposed in drive; face well mineralised, assaying 7 ozs. 7 dwt. over 72 inches, reduced 3 ozs. 1 dwt.

\* \* \* \* \*

Developments at depth in the sulphide ore on both the East and West Lodes on the Empress-Palmira property continue to be of a highly satisfactory nature. In pursuance of the S.A. Prospecting and Concessions

Syndicate's policy to continue to prove, as rapidly as possible, the continuity of these lodes and their gold contents over big widths in the sulphide ore, the capacity of both air-drills and power haulage is being doubled. All plant for this purpose has been secured in the country, and, transport having been arranged, is in transit to the mine, where it is expected to arrive during the current month, when, all foundations having been prepared in advance, there will be no delay in completing its erection.

\* \* \* \* \*

The annual report of Mr. Drogemans, the chairman of the Katanga Special Committee, states that since the end of 1910 and up to June 30 last, 172 mineral discoveries were reported to the committee—53 of copper, 27 of tin, 9 of copper, tin, and bituminous slates, 38 of gold, 26 of iron and other metals, 8 of coal, 2 of manganese, 2 of lead, 4 of salt. It is stated that all the big prospecting syndicates have asked for large reservations to be made in their favour. The report also states that only one diamond pipe, the Luanza one, was worked during last year; and to say "worked" is not fully correct, as only a little has been done. Works are now to be started at a second pipe.

## Correspondence and Discussion.

### Comments on Questions Arising in Technical Practice or Suggested by Articles in the Journal—Views, Suggestions and Experiences of Readers.

#### Village Deeps; A Wail from Jeppes.

To the Editor, *South African Mining Journal*.

Sir,—In your current issue you again attempt to puff "Village Deeps" to the sky, for which, to my mind, there is no justification. On your own showing, you are bound to admit that the profit per month has gone down five thousand, while the working costs are always going up. The capital expenditure on the mine has been enormous, over £300,000 in two years. The only apparent effect of this is to increase the working cost. You make much of the increased yield per ton so far this year; surely you know that "selective mining" is being practised on the property. See the chairman's speech at last annual meeting: "It has been thought desirable to increase the pay limit by half a dwt., in order to meet the heavy underground costs now rising." I should be pleased if you could tell me in the next issue of your usually well-informed paper how much more capital expenditure has yet to be incurred on the property, and do you think that the present high working costs will always obtain.—I am, unfortunately,

A SHAREHOLDER.

Jeppes, December 16, 1912.

We think our correspondent is very hasty in his judgment of the Village Deep, and very unfair to us in his statement as to our attempts to "puff up Village Deeps." Needless to state, it never has been, and never will be, the policy of this journal to "puff up" any stock or stocks. As to "A Shareholder's" denunciations of Village Deep expenditure, both on capital account and in regard to working expenditure, we would again direct attention to the vast amount of work that has been carried out in the Turf Mines section of the property. As stated in our last issue, the haulage scheme on the 16th, or first main collecting level, is barely completed as yet, and until working conditions in the deeper levels have been established on the new and sounder basis, the criticism contained in the above is quite unwarranted. The amount of capital expenditure to be incurred in the future is relatively small. We certainly anticipate reduction in working costs and would counsel "A Shareholder" to have some patience. Ed., S.A.M.J.]

#### More Geological Truth Tablets.

To the Editor, *South African Mining Journal*,

Sir.—Mr. Von Dossur's version, in your last issue, as to how Nature inserted and mineralised the horizontal quartz veins in the dolomites of the Lydenburg age may have been as he suggests; but how well-known geologists—himself included—can include such an im-

portant series as the Black Reef series in that system, as it is called, is beyond my ken, as they hope to be taken seriously on other matters of public interest. Black Reef series belongs to the Black Reef age, which Nature laid down millions, maybe billions, of years after the Lydenburg age, the one under review, and gave to each—why not?—its own dolomites, with their own characteristics—but "ikona" gold in Black Reef dolomites! The upper beds of the Lydenburg age—wrongly termed "Pretoria beds"—also contain horizontal quartz reefs, in the shales beds overlying the dolomites, and I have often wondered how they got there, as they are quite persistent wherever the age occurs, be it at Vogelstruisfontein and Rietfontein, in the Western Transvaal, or out Lydenburg way, in the Eastern. Wonderful are the ways of Nature! Personally I have long given up trying to account for how any particular reef, or series of reefs, happen to find themselves here and there—misplaced as we often think—but accept the fact, and move on to pastures new, for Nature won't tell, and men can't as a rule, for their opinions differ so, and one is apt to get mixed. It is an axiom in our stratigraphy that where Black Reef dolomites are Black Reef series must be underneath—as on the East Rand and elsewhere—and where the Lydenburg dolomites are the "Percé conglomerates" follow in sequence, at, say, 300 feet below. The Percé conglomerates consist of three pebble beds only, whereas Black Reef series contains thirty or more, counting the little fellows. South African geology cannot be learnt in European schools, any more than the language (?) of this country can be acquired there. Jack's as good as his master in South Africa as far as geology is concerned, and frequently better, for the reason that the more one knows of European geology the more one has to try and forget, more especially the fossiliferous part of it. It is said by some that the Nigel series has no visible extension to the east of that company's ground, yet, for all that, a blind man can see it, trending north, on Mr. W. Styke's farm "Holgatfontein" No. 127. On "Marie Vale," overlying, they developed the Blue Sky reef in the early days, and certain geological inexactitudinaries christened it "Nigel," just as today they call Black Reef "Main Reef," for their purposes—as Mr. George Denny once said openly at a certain West Rand company's meeting. There are seven reefs close underlying Main Reef, of which three are payable; and he who says that "our outermost mines are finished" does not know what he is talking about. If fairly deep angle holes were put down from Main Reef series northwards, there would be no necessity for any geological survey of the Rand, and the scheme would put millions of pounds into the Government coffers. No Main Reef is lying horizontal, or any way near it, on the Rand to-day, in spite of what they say—but Black Reef v.v. Black Reef has in hiding most of the iridium, and the rest of the family of "ums," for which there is a reward out, but as no one seems to know the difference between Black Reef and Main Reef, the operating problem to be solved may still remain unsolved. A section from Vereeniging through Johannesburg to Pretoria gives two distinct dolomite series and defies the "great anticline theory" as enunciated by Drs. Hatch and Corstorphine, page 163, "The Geology of South Africa." The earth thuds we get here necessarily must be accounted for in some other way than the displacement of strata five miles, or so, beneath Johannesburg, for the odds are that the granites start somewhere in the vicinity of a mile down, the granites are metamorphosed. Our Southern Hemisphere carboniferous age has reached its five mile thick limit, it is still lying horizontal, and is due for destruction. That little incident can happen any day now—one of "Nature's days," of course, I mean!—Yours, etc.,

SCOTT ALEXANDER,

"Rand Stratigraphist."

Johannesburg, Dec. 16.

## THE WEEK IN THE SHAREMARKET.

## Firmer—Diamonds Improving—Brighter Outlook.

WITH the improving prospects of peace in Europe, the market is daily growing in strength and firmness. The tension between Austria and Servia, which was the most serious phase of the trouble, has eased considerably, and of course the Balkan war cannot be much further prolonged. At any rate Paris is taking a more hopeful view of the outlook, and diamonds towards the end of the week were again in demand. Though it is perhaps too early to close the Rand dividend list, it is clear that 1912 will be a record year, the total to be distributed far exceeding that of last year. With the good dividend showing and the prospects of peace so bright, there is no reason why the New Year should not open under the best of circumstances. Next week will, of course, be broken by holidays, but business promises to be much more brisk thereafter.

\* \* \* \* \*

	Friday,	Sat.,	Monday,	Tuesday,	Wednesday,	Thurs.
	13th	14th,	14th,	17th,	18th,	19th.
African Farms	15 6	...	15 6	15 3B	15 5B	
Aurora West	10 0B	...	...	...	...	
Apex Mines	24 0B	...	15 6	23 6B		
Bantjes Consolidated	24 3	...	21 0B	24 3B	24 3B	
Benonis	4 0B	...	4 0	4 0B	3 8B	
Bushveld Tins	0 10B	...	0 9B	0 9B	0 9B	
Brakpan Mines	81 0s	...	80 0	79 0B	79 0B	
Blaauwbosch	36 3B	...	45 0	52 0B	55 0B	
Breyten Collieries	31 0s	...	33 0	31 0B	33 0B	
City and Suburban	47 0B	...	48 0s	47 6B	47 3	
City Deeps	60 0	...	60 0B	60 0	60 0B	
Cloverfield Mines	6 0B	...	6 0B	6 1	6 2B	
Cons. Langhaagte	28 0B	...	24 6s	24 0s	27 0B	
Cons. Main Reefs	19 0	...	19 3	19 6	19 6	
Coronation Freeholds	...	...	0	0 6B	...	
Cons. Mine Selections 10 0B	...	...	...	14 0s		
Coronation Colls.	15 0B	...	15 0B	17 0B	15 0B	
Cinderella Cons.	...	...	19 0B	19 6B	19 0B	
Clydesdales	8 6B	...	8 6B	...	8 6B	
Concrete Cons.	5 0s	...	...	...	...	
East Rand Cent.	11 0B	...	11 3s	10 9B	11 9B	
East Rand Coals	2 5	...	2 4B	2 4	...	
East Rand Deeps	...	...	...	2 0B	2 8	
East Rand Prop. 55 0B	...	...	55 0B	56 0		
East Rand Deb.	£93	...	£93	£93	£93	
Eastern Gold Mines	2 0s	...	1 10B	1 10B	2 0	
Frank Smith Diana	9 0B	...	9 0	9 0B	8 9B	
Govt. Areas	20 3	...	20 0B	20 3B	20 6	
Gleneoe (Natal) Colls	7 3B	...	7 0B	7 3B	7 0B	
Geduld Props.	23 0	...	...	22 0B	21 0B	
Hex Rivers	2 0B	...	2 1B	2 0B	2 0B	
Jupiters	12 0B	...	...	13 0s	11 9B	
Klerksdorp Props.	3 0	...	...	2 11B	2 11B	
Knight Centrals	11 9B	...	11 9B	12 3	12 3B	
Luipaardsvlei Estates	...	...	...	9 0B	9 6B	
Lace Props.	3 7B	...	3 7	3 7B	3 7B	
Lydenburg Gold Farms 2 0s	...	2 4B	2 4B	2 4B		
Main Reef Wests	19 0B	...	19 3B	...	19 0	
Modder B's	64 0s	...	68 0B	68 0B	68 0B	
Middelvlei Estates	1 5	...	...	1 3B	1 4B	
Modder Deeps	38 0B	...	38 6	38 9	38 0B	
New Eras	8 0B	...	8 0B	8 3	...	
New Kleinfonteins	24 0B	...	24 0B	...	23 0B	
New Rietfonteins	8 6s	...	8 6B	8 9	9 0B	
New Bolksburgs	2 3B	...	2 2B	1 6B	2 3B	
New Geduld Deeps	2 6B	...	2 6B	2 7B	2 7B	
New Eland Diam.	24 0s	...	...	...	26 6B	
New Unifids	18 0B	...	16 0B	...	...	
Orange Diamonds	1 4B	...	1 5B	...	1 5B	
Pretoria Cement Co.	62 0B	...	52 6B	53 0	52 6	
Princess	7 6B	...	...	7 9B	...	
Rand Collieries	...	...	...	6 0B	6 0B	
Rand Nucleus	...	...	2 9B	2 11B	3 0	
Randfontein Estates	31 0s	...	39 9	30 0B	30 0B	
Randfontein Deeps	5 6B	...	...	...	—	

\* Buyers.

\* Sellers.

	Friday,	Sat.,	Monday,	Tuesday,	Wednesday,	Thurs.
	13th	14th	14th	16th	17th	18th
Rooiberg Minerals	31 3	—	—	32 0	33 0B	33 0
Rand Klips	4 2	...	...	—	4 1B	4 0B
Robinson Deep	46 0B	...	—	44 0	45 0B	—
Summer Deep	2 6B	—	—	2 6B	2 6B	2 6B
South African Lands	4 2B	...	...	4 1B	4 2B	4 3B
Sub Nigels	— 10 3B	...	...	10 0B	19 3B	11 3B
Springs Mines	16 6	...	...	16 0B	16 0	15 0B
Shebas	— 5 3B	...	...	5 3B	4 0B	5 3B
S. A. Breweries	36 6B	...	...	—	38 0B	34 6B
Trans. G.M. Estates	50 0B	...	...	51 0B	51 0B	50 0B
Trans. Coal Trusts	49 3B	...	...	48 0B	46 3	46 3B
Tudors	— 2 0s	...	...	2 0B	1 3B	1 3B
Temple Tins	— 0 6B	...	...	—	0 9B	0 9B
Van Ryn Deep	18 9	...	...	18 3	18 3	18 3B
Village Deep	41 6B	...	...	41 6B	42 6B	41 6B
Vogel Cons. Deep	—	...	...	1 0B	1 3B	—
Voorpoort Diamonds	—	...	...	11 6B	—	—
Witwatersrand	—	...	...	61 6B	—	—
Wolhuter	— 17 9	...	...	17 3B	17 4B	17 4B
Wit. Deep	— 53 0B	...	...	52 0B	52 9B	52 6B
Witbank Collieries	15 0s	...	...	45 0s	35 0s	45 0B
Worcesters	— 22 0s	...	...	—	—	—
West Rand Est.	3 4B	...	...	3 3	3 0s	3 0B
West Rand Con.	—	...	...	15 0B	—	—
Zaalplaats	— 27 0	...	...	27 6	23 6	28 6B

\* Buyers

\* Sellers

## Bucks Reef Gold Mines, Limited.

Incorporated in Rhodesia.

## NOTICE TO TRIBUTORS.

Arrangements have been concluded for the leasing of the Mine on tribute.

By Order of the Board,

H. G. L. PANCHAUD,  
Secretary.Head Office,  
Johannesburg,  
18th December, 1912.

## East Rand Gold, Coal &amp; Estate Company, Limited.

(REGISTERED IN THE TRANSVAAL.)

## DECLARATION OF DIVIDEND No. 3.

NOTICE IS HEREBY GIVEN that a Dividend of Five per cent. has been declared, payable to all Shareholders registered in the Books of the Company at the close of business on Thursday, the 16th January, 1913.

The Transfer Books of the Company will be closed from the 17th to the 31st January, 1913, both days inclusive.

The Dividend will be payable to South African Registered Shareholders from the Head Office, Johannesburg, and to European Shareholders from the London Office, 277 Salisbury House, London Wall, E.C., on or about the 16th March, 1913.

By order of the Board,

F. W. DIAMOND, Secretary.

Head Office, National Bank Buildings,  
Simmonds Street, Johannesburg (P.O. Box 1196),  
19th December, 1912.

When communicating with advertisers kindly mention the *South African Mining Journal*.

## Engineering Notes and News.

### THE FACTOR OF SAFETY IN MINE ELECTRICAL INSTALLATIONS.—III.\*

[By H. H. CLARK.]

#### THE PREVENTION OF ACCIDENTS CAUSED BY ELECTRICITY.

The problem of safeguarding electrical mine equipment is not a simple one. There is no general formula or equation for its solution. Moreover, there are so many variables involved, so many factors that cannot be exactly related, so many possible coincidences, that results cannot be predicted with mathematical exactness. It is necessary to consider each part of the problem by itself, in the light of local conditions, and to adopt such measures as insure a large factor of safety.

*Elimination of Contributory Causes.*—A logical first step would be to remove or to counteract as many unfavourable conditions as may be disposed of thus. As previously stated, scanty light, limited space, and the present of dust and dampness are underground conditions that are favourable to the occurrence of electrical accidents. The influence of the first of these may be eliminated by providing lights at particularly dangerous places, such as partings and cross-overs. If electric wires are a source of danger at such places they can be made a source of light also. Although it may be impracticable to eliminate entirely the effect of limited space, this condition may be counteracted by the erection of guards about apparatus. Dust and dampness are elements that can hardly be separated from the operation of a mine; in fact, the presence of dampness is often desirable to offset the effect of dust. It is possible, however, to provide apparatus so designed and installed as to resist the action of dust and dampness, and the more generous the factor of safety included in such design and installation the greater will be the resistance.

*Confinement of the Current.*—The problem of safeguarding may be divested of some of its vagueness and put in concrete form by

considering that if the electric current can be kept where it belongs—in the conductors designed to carry it—it cannot give shocks, set fires, or ignite gas, dust, or explosives. Electricity becomes actively dangerous only when it breaks away from its proper channels in stray currents or as sparks and arcs. As far as stray currents are concerned the confinement of electricity in its proper place is primarily a question of insulation, a term that includes the covering of conductors, the insulators upon which they are supported, and the insulating material used in motors and accessory equipment. Against insulating coverings for conductors is brought the argument that such coverings deteriorate rapidly and are an added element of danger because they give false impressions of safety. The truth of this argument depends upon the kind of insulation and the conditions of service, and cannot be regarded as universally applicable. If bare conductors are used they must be well installed and, to some extent at least, guarded, in order to confine the current. With the possible exception of high-voltage cables all conductors, bare or insulated, should be supported upon insulators that are mechanically strong as well as electrically efficient. If bare conductors are used, confinement of the current depends entirely upon the insulators. Moreover, dampness and dust can come into direct contact with the wire, a condition not consistent with the highest factor of safety. In order to insure a high factor of safety in the insulation of motors and other electrical machines they must be carefully selected with a view to the service which they are to perform. They must then be protected from moisture and dust unless such protection is inherent in their design. Care in this respect will be rewarded not only by increased safety, but also by decreased cost of upkeep. The maintenance cost of inclosed motors operated in damp and dusty places should be less than for open motors operated under the same conditions if both types of machines are properly designed, constructed and rated. It must be

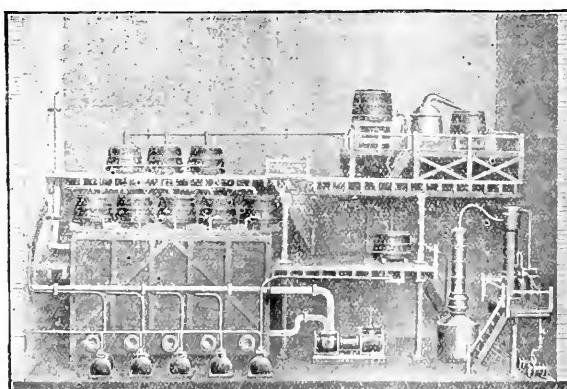
\* Paper No. 19, U.S.A. Bureau of Mines.

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admitted that the electric current cannot be kept where it belongs in the sense of eliminating entirely such sparks and arcs as occur at fuses, circuit breakers, air-break switches, starting rheostats, and the commutators of direct-current machines. In this connection the factor of safety must be applied by arranging to confine the outbursts of current to a limited area unoccupied by anything which may be affected by heat or fire.

*Additional Precautions.*—Assuming that in the selection and installation of electric equipment care has been exercised to insure the proper confinement of the current, the factor of safety may be increased by grounding the dead metallic parts of apparatus, by providing means for insulating the bodies of those who work upon such apparatus, and by barring from the vicinity of the current such elements as are explosive or combustible.

*Maintenance of Safety Factor.*—It is as important to maintain a high factor of safety as to obtain it in the first place, and this calls for careful and frequent inspection by the mine electrician, whose responsibilities can scarcely be overrated. The supervision of the electrical equipment of a mine is a task that requires unusual ability, sound judgment and experience of a peculiar sort. To select suitable apparatus, to install it properly and economically, and to maintain it free from interruption of service at a minimum cost demands much ability. When the requirements of safety are added to the list of duties the responsibility is not lessened. The establishment and maintenance of a high factor of safety rests as much with the man who has direct charge of the electrical equipment as with anyone. It seems reasonable also to assume that a man who is competent to maintain a high factor of safety is no less able to maintain as low a cost of maintenance as is consistent with satisfactory operation.

#### SUMMARY.

By way of a summary there follow five terse suggestions for reducing the number of accidents due to the use of electricity in mines:

1. Remove contributory causes.
2. Remove from the vicinity of electrical apparatus all elements susceptible to its influence (gas, dust, explosives, combustible material, etc.).
3. Keep the electric current where it belongs.
4. If under certain circumstances the current cannot be entirely confined, at least limit the area of its activity by using protective devices.
5. Insure a high factor of safety by: (a) Selecting materials and apparatus with care; (b) installing equipment in a strictly first-class manner; (c) inspecting equipment frequently and thoroughly; (d) maintaining it in good condition at all times.

#### PUBLICATIONS ON MINE ACCIDENTS AND TESTS OF EXPLOSIVES.

The following Bureau of Mines publications may be obtained free by applying to the Director, Bureau of Mines, Washington, D. C.:

Bulletin 10. The use of permissible explosives, by J. J. Rutledge and Clarence Hall. 1912. 34 pp., 5 pls.

Bulletin 15. Investigations of explosives used in coal mines, by Clarence Hall, W. O. Snelling and S. P. Howell, with a chapter on the natural gas used at Pittsburgh, by G. A. Burrell, and an introduction by C. E. Munroe. 1911. 197 pp., 7 pls.

Bulletin 17. A primer on explosives for coal miners, by C. E. Munroe and Clarence Hall. 61 pp., 10 pls. Reprint of United States Geological Survey Bulletin 423.

Bulletin 20. The explosibility of coal dust, by G. S. Rice, with chapters by J. C. W. Frazer, Axel Larsen, Frank Haas and Carl Scholz. 204 pp., 14 pls. Reprint of United States Geological Survey Bulletin 425.

Bulletin 26. Notes on explosive mine gases and dusts, by R. T. Chamberlin. 67 pp. Reprint of United States Geological Survey Bulletin 353.

Technical Paper 4. The electrical section of the Bureau of Mines, its purpose and equipment, by H. H. Clark. 1911. 12 pp.

Technical Paper 6. The rate of burning fuse as influenced by temperature and pressure; by W. O. Snelling and W. C. Cope. 1911. 28 pp.

Technical Paper 7. Investigation of fuse and miners' squibs, by Clarence Hall and S. P. Howell. 1911. 19 pp.

Technical Paper 11. The use of mice and birds for detecting carbon monoxide after mine explosions and fires, by G. A. Burrell. 1912. 16 pp.

Technical Paper 12. The behaviour of nitroglycerin when heated, by W. O. Spelling and C. G. Storm. 1912. 14 pp.

Miners' Circular 2. Permissible explosives tested prior to January 1, 1911, and precautions to be taken in their use, by Clarence Hall. 1911. 12 pp.

Miners' Circular 3. Coal-dust explosions, by G. S. Rice. 1911. 22 pp.

Miners' Circular 4. The use and care of mine rescue breathing apparatus, by J. W. Paul. 1911. 24 pp.

Miners' Circular 5. Electrical accidents in mines; their causes and prevention, by H. H. Clark, W. D. Roberts, L. C. Ilsley and H. F. Randolph. 1911. 10 pp., 3 pls.

#### Bucks Reef.

The secretary writes: I beg to advise the following particulars of last month's working results, viz.: Tons crushed, 876; yield, £1,692 1s. 7d.; loss, £269 0s. 1d.

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## Automobile Notes.

### **Skidding.**

Every driver of a motor has experienced the skid, in some shape or form, and many narrow escapes from this cause can be vouched for by those who have travelled considerably. It is not uncommon for a car to turn completely round in an alarming manner, at the most unexpected times, as the result of a skid, even when the machine is in the hands of a skilled driver. Many incipient skids, however, are counteracted by the skill of the person in charge, and pass unnoticed by the other occupants of a car. Under certain circumstances the skid is quite unavoidable and unless the driver is travelling at a reckless pace, with a loss of car control, directly attending the skid, he cannot be held legally liable for any damages resulting. It is often difficult to know what course to pursue when an obstruction presents itself in the immediate advance of an automobile, as, in the act which ensures the avoidance of the obstruction, one is almost certain to become involved in other dangers in a crowded thoroughfare. At this particular season, street traffic is greater in volume than at other times of the year, and congested to a certain degree; therefore a rapid application of brakes, by a motorist, and incidental swerving, to avoid the careless pedestrian, may cause a car to skid, with, perhaps, disastrous results in a street crowded with Christmas shoppers. The most resourceful driver, it will be seen, is confronted with peculiar difficulties, exacting judgment of the highest order, and must be prepared, at all times, for the varied street conditions obtaining. Were the pedestrian to observe a greater caution, very appreciable assistance would be afforded the motorist, whose responsibility embraces the safety of other street users, himself, and the machine in his charge. Many approved devices have eliminated much of the tendency to side-slip, such as Parsons' non-skid chains, which ensure for the motorist in these parts a full tractive grip on all surfaces, and make a special appeal with the advent of the rainy season.

### **Car Insurance.**

How best to differentiate between the reckless and considerate driver, respectively, is a question which causes much dismay to the local representatives of insurance companies that accept automobile risks. Naturally, it is not always prudent to take the owner's word as good faith in point of

his ability in matters automobile, not that the applicant for insurance could be accused of erring on the side of truth in every case, but on account of the fact that many drivers consider themselves thoroughly competent, who, in the opinion of the expert, display very little judgment in handling cars. It is, of course, impossible to avoid accepting risks, but it seems, nevertheless, unfair that the careful driver should be called upon to pay as much as his reckless confrere.

The owners of taxi-cabs in Johannesburg resent their exclusion by the insurance companies, who resolutely refuse to accept their proposals, on the ground that undue risks would be incurred. It is not quite clear, however, why a taxi owner, who can show a practically clean sheet, should have his insurance refused. It is not proposed to bring antiquated machines, plying for hire, under the insurance

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system, but there seems no just reason for the exemption from the advantages of insurance of the owner-driver of an up-to-date machine, who takes no risks unduly. Perhaps the insurance companies can offer substantial argument in support of this black-listing, which, to the man in the street, appears quite unwarranted.

### Cheaper Living.

One hardly looks to the motor car as a means of reducing the everyday cost of living, but that such is the case, will be briefly discussed in this article. The small car—the runabout—which is, first of all, inexpensive to purchase, and, secondly, possesses the same quality in regard to upkeep, is destined, in the near future, to solve very largely the problem of living in these parts. The year shortly to be entered upon will witness the marketing of a car within the reach of every man of moderate means: the individual who now lives expensively in one or other of the many Johannesburg suburbs, but who, with the advent of the car in question, will realise his ideal in being enabled to live much "further out" than at present, and consequently cheaper. Distance, in a comparative sense, is no object to the car owner to-day, and the man of moderate means, to whom the appeal of the runabout will prove irresistible, will find it possible to reside in an ideal house, with a low rental, remote from the noise and bustle of city life, and possibly become his own landlord eventually. The 6 to 8 miles journey from his business will be easily accomplished in less time than trams now occupy in bringing the residents within the three mile radius, to their respective employment. "Far out," ground is not at a premium, as is the case in the majority of the suburbs, and rents do not rule in exorbitant fashion. Houses are also apportioned considerable ground, where the motorist tenant, by way of illustration, can produce many table necessities, which are now purchased at a high figure in the town markets. The advantages of the car, in short, are

legion; the degree of comfort, cleanliness and exhilaration in travelling afforded; the distances which can be covered by its use, at a trivial cost; the facilities for reaching parts, not served by tram or train; the avoidance of inconvenience caused by irregularity and breakdown, as the case may be, in the latter form of locomotion; coupled with a host of other advantages, the balance is turned heavily in the motor car's favour, and some solution offered of the problem of living from the standpoint of the man of moderate means.

### "Here and There."

Motorists who spend much time in the dust from early morn until eve, have welcomed the break-up of the drought, more than any other section of the community. The work of road repair is being consistently pushed forward; the destruction to road surfaces, consequent to the drought, however, is very great, and taxes to the utmost the authorities responsible for the road systems. Many of the main roads of the Transvaal loudly call for renovation at the present time, and considerable time must elapse before the necessary improvement is effected in each instance.

\* \* \* \* \*

The importance of using a suitable oil in one's engine cannot be over-estimated, lubrication being the life of the mechanism. The strenuous conditions to which automobiles are subjected in South Africa, preclude the use of other than the well-known article. Users in quest of a reliable high flash-point oil, capable of withstanding the heat generated in the cylinders, are reminded of the fact that Texaco motor oil can be thoroughly recommended in this respect, while those anxious to avoid the formation of deposit, will lubricate exclusively with this brand, which is so rapidly coming into favour with South African motorists.

\* \* \* \* \*

The dangerous practice of carrying passengers on the luggage grid of motor bicycles is noticeably on the increase in

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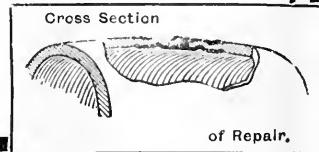
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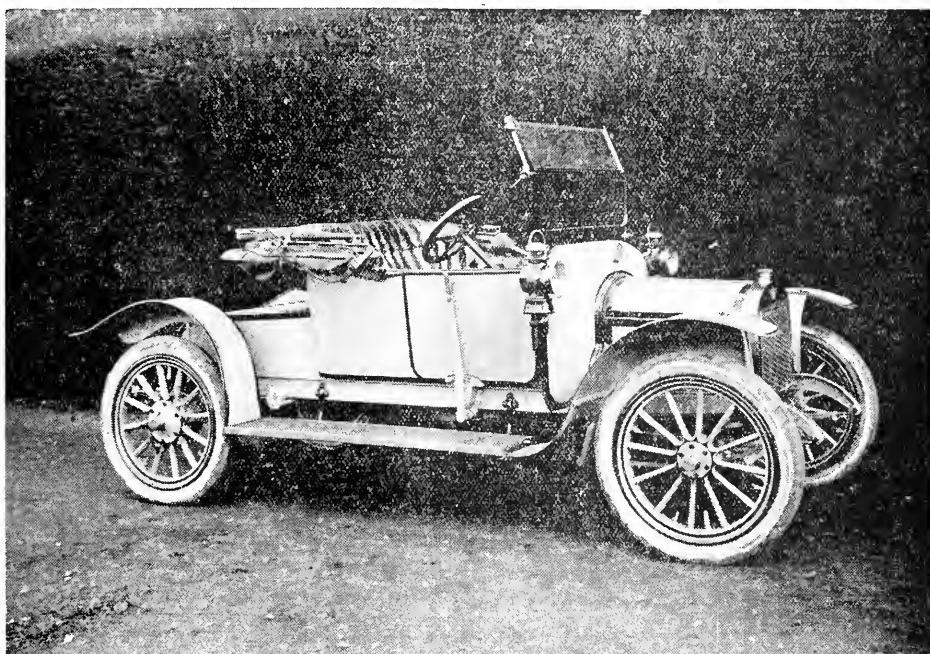
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Johannesburg, and should be prohibited. The side-car admirably answers the cyclist's purpose for giving a friend a spin, and in forming a three-wheeled machine, contributes to the safety of both. On greasy streets, in particular, the risks involved in the first-mentioned practice are very great, and call for attention from the proper quarters.

\* \* \* \*

The frequent straying of cattle on the highway gives rise to a question which has not yet been satisfactorily answered in South Africa, and one of much importance to all road users. Modes of transport and change of habits create new situations, and the old laws, which date back from the days when agricultural interests were supreme, will have to be revised. Pending legislation on this important matter the movements of cattle should be properly governed, and the menace to motorists, which they constitute, thereby lessened.

\* \* \* \*

Prominence is given in motor papers to a new type of tyre pump, in the use of which the operation of hand-pumping is dispensed with. The device is described as a simple apparatus, easily fitted to a cylinder; the tyres being inflated automatically by fresh air drawn from outside the engine.

\* \* \* \*

South African motorists may be interested to know that the pioneer of the motor car was one Nicolas Cugnot, who was born in the year 1725. Becoming a military engineer in the service of the Duc de Lorraine, he was commissioned in France to build a steam carriage for the conveyance of artillery. The car produced was not very serviceable, as it

only progressed at the rate of two and a half miles an hour, and had to stop every quarter of an hour for replenishment of the engine. Another attempt also led to similar disappointment. His idea, however, is patent in the modern car, and a monument is to be erected in France, to the memory of this pioneer of the automobile.

A partial recovery in earnings is disclosed by the report of the Cape Copper Company for the year ended 31st August last.

**Cape Copper Results.**

Rather more copper ore was won than in the preceding period, and the net profit amounted to £80,500, as against £60,860 for 1910-11 and £124,600 for 1909-10. Consequently, better dividends have been declared for the last financial year, the distributions totalling 3s. 6d. per share for 1911-12, as compared with 2s. 6d. for 1910-11 and 4s. for 1909-10. A falling off is shown by the latest estimates of the ore reserves at the company's mines in Cape Colony, while in regard to the Tilt Cove establishment it is stated that notice to terminate the lease next August has been given in consequence of an adverse report on the mining position having been received from an engineer of high standing. On the other hand, at the property in India which is under option to the company a fair tonnage of ore has been opened up, and it has been decided to order a concentration plant for this proposition. A fair-sized ore body is also stated to have been exposed at the property under option in Newfoundland.

## The Week's Company Meetings.

### WELGEDACHT EXPLORATION.

#### Annual Meeting.

#### Directors Declined.

#### Who Should Control?

#### London or Johannesburg?

An interesting position was disclosed at the meeting of the Welgedacht Exploration Company, Ltd., held in the board-room, Jeppe Arcade, on Tuesday the 17th. The eleventh annual meeting of the company was held on the 31st of October at Salisbury House, London Wall, Mr. Thomas F. Dalgleish presiding. At that meeting the appointment of Messrs. L. R. Davies and A. H. D. Cochrane as directors was confirmed, and the retiring directors, Messrs. J. H. Ryan and P. G. Hamilton Carvill, were re-elected. At the same meeting the Chairman, in the course of his opening remarks, said: In accordance with the wishes of the majority of the shareholders, we are holding our general meeting this year in London. In order to comply, however, with the strict letter of the company's articles of association, a formal general meeting of the company will be held in Johannesburg at an early date in order to pass the resolutions which are being submitted to you. It should be pointed out, however, that the number of shares held in South Africa is only about four thousand. Later, the Chairman said: The directors are very pleased to say that Messrs. Mullins and Roy, who were formerly on the board in Johannesburg, have continued to give their services to the company in the capacity of South African agents.

Mr. J. H. Ryan presided at this morning's meeting, the meeting referred to in the chairman's speech at the annual meeting in London, and among those present and represented by proxy were Messrs. J. Jeppe, John Roy, H. de V. Steyler, C. H. Mullins, V.C., C.M.G., C. A. Wentzel, W. E. Hulson, P. Ross Frames, A. Barker, Sir Abe Bailey, P. G. Hamilton Carvill, T. F. Dalgleish, L. R. Davies, J. A. Duncan and Mr. O. F. Brotherton (secretary).

#### Chairman's Speech.

Mr. J. H. Ryan, in opening the meeting, said: A meeting of shareholders of your company was held in London on the 31st of October last, Mr. Dalgleish presiding, when he intimated that in order to comply with the strict letter of the Articles of Association, a meeting of the company would be held in Johannesburg at an early date in order to pass certain resolutions, which were then submitted to that meeting, and in pursuance of this the local committee has, on the instructions of the directors, called this meeting for the purpose of transacting business as stated in the notice which the secretary has just read. I regret to say that, though a director, I have not been able to keep in close touch with the business of the company, owing to the fact that shortly

after the last general meeting which was held a year ago, the directors decided to hold their meetings in London, which, of course, prohibited my attendance, and I have had to be represented by an alternate. As, however, I am the only director in this country, and as the articles lay down that if a director be present at a general meeting he shall, in the absence of the chairman of the company, take the chair at such meeting, the duty evolves on me to fill this position to-day.

#### Company's Transactions.

The directors' report and accounts up to the 30th of June last accompanied by the reports of your South African agents, the consulting engineer and the manager, have all been in your hands for some time past, and have been fully commented on in the chairman's speech delivered at the London meeting before referred to. Consequently, I need not enter into very lengthy details here, and if I traverse the same ground as Mr. Dalgleish, I hope you will excuse it. Referring to the debit side of your balance sheet, the capital and share premium stand at the same figure as last year, namely, £156,750 and £233,317 7s. 1d., respectively, the sundry creditors stand at £1,294 18s. 8d. against £3,433 9s. 7d., and drafts in transit at £1,500, against £4,500 at the 30th June, 1911, and are merely closed accounts and financial transactions open at the time of closing your books. On the credit side your property account stands at £138,606 10s. 5d., and only differs from last year's figures by a few pounds. The coal section capital expenditure account amounts to £118,061 2s. 3d. as compared with £111,535 2s. 6d. last year, and the gold section capital expenditure at £78,602 15s. 9d., against £15,425 15s. 9d., the difference being the capital charges incurred on these two sections in work and equipment during the year. The position of liquid assets, such as cash at call, sundry debtors, shares, etc., less drafts and sundry creditors, shows a balance to credit on these accounts of £42,592 3s. 6d. against £43,428 15s. 3d. last year. Turning to the profit and loss account, it will be seen that after allowing for a small amount of depreciation we made a loss on the coal section of £4 16s. 10d., and on the gold section £1,157 19s. 8d., which amounts, however, were almost covered by rents, and interest credited in the general profit and loss account, so that the actual loss for the year was only £157 3s. 7d., which with the amounts brought forward from previous years, gives a total profit and loss debit of £13,267 4s. 2d. When last you met here the chairman informed you that, acting on the advice of your consulting engineer, Mr. S. C. Thomson, the directors had decided to discontinue the sale of coal and to sell their allotment to the Coal Owners' Association, and that, in the meantime, the management would be instructed to push forward the most encouraging headings in order to find better coal and more settled country. This was done, and I am pleased to say that for the past six months we have again been able to produce and sell marketable coal, and we have gradually increased our output up to date, and can once more execute orders for about

our allotment of 10,500 tons per month, allotted by the Coal Owners' Association, which should shew a satisfactory profit.

#### Coal and Gold.

Regarding the coal section, the mining area secured to you as freehold owners of the farm Welgedacht is equal to 1,240 claims, on which the main reef series has been proved by a number of boreholes, one of which struck the reef in the centre of the mnyapacht at a depth of 1,908 feet, giving excellent values. A shaft was sunk towards this, but owing to the enormous flow of water, sinking operations became very slow and most costly, and, in consequence of this the directors decided in October last to cease sinking operations and retain their small cash reserves till these could be augmented by some scheme which would supply the necessary capital to thoroughly carry out the development of the gold section. Mr. Dalgleish states that in view of the excellent results being obtained in the East Rand basin in such mines as the Modderfontein, Modder B., Brakpan and Geduld, the directors are giving attention to the provision of working capital for the resumption of work on the gold section, and, I trust, when times are more auspicious they will be able to put forward a proposal acceptable to the shareholders. With these remarks I move the adoption of the directors' report and accounts to the 30th of June, 1912, as submitted.

#### Certain Legal Expenses.

At the close of the chairman's speech Mr. Jeppe asked whether there was included in the expenditure an item of £50 paid to Mr. Steyler's firm for the legal costs incurred, he believed, by Messrs. Dalgleish and Carvill when they took steps for removing certain directors from the board last year.

The Chairman said the item had been paid by the company and charged to head office legal expenses.

Mr. Jeppe: On the instructions of the London board?

The answer was in the affirmative.

Mr. Jeppe then moved as an amendment that the directors' report and accounts be adopted with the exception of the item of £50, and that that be left for the investigation of the directors. If his information were correct, the service rendered by Mr. Steyler was a personal one and should never have appeared in the books of the company. He understood from Mr. Steyler that the £50 was for advice given by him to the representatives of Messrs. Dalgleish and Carvill.

Mr. H. de V. Steyler said he was never consulted on behalf of the company.

Mr. Mullins seconded, and the directors' report and accounts were adopted with Mr. Jeppe's amendment.

After questions had been asked as to whether the representation was in order, the confirmation of the appointment of Mr. L. R. Davies and Mr. A. H. D. Cochrane as directors in place of Messrs. C. H. Mullins,

V.C., C.M.G., and John Roy, was proposed; but the proposal was lost by eight votes to five.

### Poll Demanded.

Mr. C. H. Mullins moved that a poll be taken. Mr. Hudson and Mr. John Roy supported and a poll was taken.

While the poll was being taken Mr. Julius Jeppé said he voted against the confirmation because it had been found inadvisable and unworkable to have a London office. When he last presided he (Mr. Jeppé) said that in turning out the local directors there could only be one object in view. He was quite correct; the only object was to get the board in London. Shortly afterwards the London board was called into existence, and local affairs were conducted by two local agents and one director. The one director was a figurehead, because the business was carried on by Messrs. Roy and Mullins as agents for Messrs. Carvill and Dalglish. It had been found a very expensive experiment, because every little thing necessitated long cables from Johannesburg to London and back again. Questions which could be settled in Johannesburg in five minutes took months and months. The moment the London office came into existence the secretarial fees were increased by £400 per annum. Mr. Jeppé alleged that the directors were legally advised that the meeting which took place in London in October was absolutely illegal. He asserted that on the grounds of expenditure, expediency and illegality, it was wicked to try to carry on the company in the way the London directors desired.

### Shareholders' Right.

Mr. John Roy said he was not there to defend Mr. Hamilton Carvill. He recognised there were grave disabilities in concerns being managed from London; but he would point out that inasmuch as the shareholders were very largely situated in London and Europe they had some right to say who was to govern the concern, and in exercising that right they exercised it on behalf of a London board. Mr. Roy pointed out that Sir Abe Bailey agreed to the appointment of Mr. Cochrane to the board.

The Chairman said it was the intention of the local shareholders to work in harmony with the representatives of the London shareholders. He had not heard that Mr. Cochrane had been nominated by Sir Abe Bailey. If they claimed that the London board had no authority to confirm the appointment of Messrs. Davies and Cochrane the meeting could not very well accept Messrs. Davies and Cochrane but must decline both. If they chose there to put them up and propose them that was a different matter.

Mr. C. H. Mullins said that Mr. Jeppé's statement with regard to the enormous expenditure incurred by the board holding its meetings in London was very extravagant.

The result of the poll was then declared, and it was found there were 1,948 shares in favour of the confirmation of the appointment of Messrs. Davies and Cochrane as directors and 3,600 shares against.

**The Chairman:** I declare the meeting has declined to confirm the appointment of Messrs. L. R. Davies and H. D. Cochrane in place of Messrs. C. H. Mullins and John Roy.

### New Directors.

Messrs. J. H. Ryan and M. P. G. H. Carvill retired from the board, but offered themselves for re-selection.

Mr. J. H. Ryan was re-elected, but Mr. Carvill was not re-elected.

There were thus three vacancies in the directorate, and Mr. C. A. Wentzel moved that Mr. Jeppé take Mr. Carvill's place, that Mr. Bailey Southwell be elected in place of Mr. Davies, and Mr. John Roy in place of Mr. Cochrane.

Mr. John Roy withdrew, and Mr. Mullins was proposed in his place. Mr. Mullins also withdrew.

Mr. Jeppé and Mr. Southwell were then elected directors, and Mr. Alfred Barker was elected as the third director.

Messrs. Thomas Douglas and Ernest Haines were reappointed auditors and the meeting ended.

## BRAKPAN MINES.

### Extraordinary General Meeting.

On the 13th inst. an extraordinary general meeting of shareholders of the Brakpan Mines, Ltd., was held in the company's board-room, Corner House, for the purpose of considering amendments to the articles. There were 515,868 shares represented out of an issue of 750,000. Mr. F. R. Lynch presided, and in moving the adoption of the amendments, after referring to the death of Mr. J. G. Hamilton, late chairman, said: As foreshadowed at the last annual general meeting, your directors have called you together today in order to make such alterations in the articles of association of the company as will permit of the annual general meetings being held within six months after the close of the financial year, instead of four months as heretofore, and thereby meet the expressed wishes of shareholders resident in Europe. Your directors have taken the opportunity thus afforded of amending the articles where necessary in order to bring them into conformity with the Companies Act of 1909.

### Alterations Explained.

The proposed new Article 6A deals with the issue of new shares, either by public or private subscription, and provides that no allotment of share capital may be made unless at least 75 per cent. of the shares offered shall have been subscribed, and at least 10 per cent. of the nominal value of each share, payable in cash, has been received by the company. Article 6B enables the company to pay a commission to any person subscribing or procuring subscriptions for any increase in capital, but it is necessary that such commission shall, in the case of shares offered to the public, be disclosed in the prospectus, and in the case of shares which are not offered to the public, be disclosed in the statement in lieu of prospectus or in the statement lodged with the Registrar of Companies. Article 6C provides that

in the event of any shares in the company being issued for the purpose of raising money to defray the expenses of the construction of any works or plant which cannot be profitably employed for a lengthened period, the company may pay interest, at a rate not exceeding 6 per cent., and charge this interest to capital account as part of the cost of the construction. The amendment of Article 53 stipulates that shares on which "calls" or other sums due have not been paid cannot be considered for the purpose of voting at a general meeting or for requisitioning for an extraordinary general meeting. The suggested new Article 55, which takes the place of the existing article bearing the same number, merely brings the provisions regarding meetings into conformity with the Companies Act of 1909, and does not call for special comment. The same remark applies to the proposed alterations to Articles 56, 63, and 87. The new Article 114 deals with the provision of a common seal of the company, and empowers your directors to provide for branch registers and official seals in foreign countries. The existing Article No. 117 provides for a reserve fund, but does not give your directors the necessary power to invest moneys set aside for the purposes of this fund. The addition now proposed gives this authority, and also enables your directors to employ the amount in the reserve fund, or any portion of it, in the business of the company.

The alteration to Article 126 is the main reason for the holding of this meeting, and provides the necessary authority for extending the period between the close of the financial year and the holding of the annual general meetings from four to six months.

The remaining alterations are purely formal, and are necessary in order to bring the articles into line with the Companies Act of 1909.

The amendments were adopted.

## TRANSVAAL COAL TRUST.

### Extraordinary General Meeting.

Mr. F. R. Lynch presided at an extraordinary general meeting of shareholders held on the 13th inst., for the purpose of amending the articles of association. There were 279,562 shares represented out of an issue of 545,760.

### Chairman's Speech.

The Chairman said: As you will remember, at the last annual general meeting of your company it was stated that before the end of the present year an extraordinary general meeting of shareholders would be held in order that such alterations could be made in the articles of association as would enable shareholders resident in Europe to have an opportunity of expressing their views at the annual general meetings of the company. The proposed amendment

of Article 143 gives effect to this suggestion by extending the interval between the close of the financial year and the date on which the annual meetings must be held from four to six months. Article 71 of the articles of association has been amended so as to comply with the Companies' Act of 1909. It is now proposed that two months' notice at least shall be given of any general meeting instead of twenty-one days as provided under the existing articles. Under the present article No. 95 (3) no limit is placed on the special remuneration payable to directors by way of a percentage of the dividends declared and paid out to shareholders. In view of the handsome profits now being made by the Brakpan Mines, in which the company has a large interest, it was deemed advisable that a limit should be placed on this participation of directors in the profits, and it is now proposed to amend the article by fixing the total maximum remuneration payable to directors in any one year at £3,200 per annum, instead of an unlimited amount as provided for under the existing article.

Reference was also made to the death of Mr. J. G. Hamilton, late chairman of the company.

The amendments to the articles were adopted.

## SPRINGS MINES.

### Extraordinary General Meeting.

An extraordinary general meeting of shareholders of Springs Mines, Ltd., was held in the Company's Boardroom, Corner House, on the 13th inst., for the alteration of articles, there being 522,864 shares represented out of an issue of 630,000.

#### Chairman's Speech.

The Chairman, Mr. F. R. Lynch, after a sympathetic and appreciative reference to the late Mr. J. G. Hamilton, who held the position of chairman, said: You will remember that at the last annual general meeting reference was made to the representations which had been made by shareholders resident in Europe to the effect that they might be given sufficient opportunity of voicing their opinions at the general meetings of the company should they wish to do so. This meeting has been convened for the purpose of altering the Articles of Association so as to enable the annual general meetings to be held within an interval of six months after the close of the financial year, instead of four months, as hitherto. Advantage has been taken of the opportunity thus created by amending the existing Articles generally where such a course was necessary to bring them into conformity with the Companies Act of 1909.

#### New Capital Regulations.

The proposed new Articles 6A and 6B establish the statutory regulations

for dealing with the issue of new capital, either by public or private subscription, and provide—

(a) That no allotment may be made unless at least 75 per cent. of the shares offered for subscription shall have been subscribed, and at least 10 per cent. of the nominal account of each share, payable in cash, has been received by the company; (b) that the company may pay a commission to any person subscribing or procuring subscriptions for any new capital, such commission, in the case of shares offered to the public, to be disclosed in the prospects, and in the case of shares which are not offered to the public, to be disclosed in the statement lodged with the Registrar of Companies. The new Article 6C provides that in the event of any shares being issued for the purpose of raising money to defray the cost of the construction of any works or buildings or the provision of any plant, which cannot be profitably employed for a lengthened period, the company may pay interest on such share capital at a rate not exceeding 6 per cent. per annum, and may charge this interest as part of the cost of the construction. The suggested new Article No. 117 formally authorises the provision of a common seal of the company, and enables your directors to provide branch registers and official seals in foreign countries. The alteration to Article 131 provides the necessary authority for extending the period between the close of the financial year and the holding of the annual general meetings from four to six months, which is the principal reason for calling you together to-day. The proposed amendments to Articles 59, 60, 67, 145 and 149 are formal, merely bringing the Articles into line with the provisions of the Companies Act, and do not call for any special comment.

The alterations were agreed to.

## NEW ERA CONSOLIDATED.

### Extraordinary General Meeting.

#### Alterations of Articles.

An extraordinary general meeting of shareholders of the New Era Consolidated, Ltd., was held on the 13th inst., in the company's boardroom, Corner House. Mr. F. R. Lynch presided, and there were also present Messrs. Gustav Sonn, W. McCalum, A. S. Pearce, C. H. Mullins, R. des Clavies, W. S. Saunders, A. F. Lyall, H. S. Johnson Hall and Wentzell, representing 130,648 shares out of an issue of 400,000.

#### The Chairman's Speech.

The Chairman said: Before proceeding with the business of the meeting, it is my duty to express the general regret of shareholders at the loss we have sustained by the death of Mr. J. G. Hamilton, our late chairman, whose long experience and extensive knowledge of the mining industry on the Witwatersrand were of

so much value in the administration of our affairs. We have lost a staunch leader and a valued friend, and we share with the mining industry of this country in general a sense of the inestimable loss occasioned by his death. This meeting has been called for the purpose of making such alterations to the Articles of Association of the Company as will give European shareholders an opportunity of expressing their views at the general meetings of the company, if they so desire. From the printed particulars of the proposed alterations, etc., which have been circulated, you will see that it is proposed to alter Article 134 by eliminating the word "four" and substituting the word "six" so that in future the annual general meetings of your company may be held not more than six months after the close of the financial year. Your directors have taken the opportunity of making certain other necessary alterations and additions to the articles in order to comply with the provisions of the Companies Act of 1909.

#### Alterations Explained.

The new clause 6 (a), sub-section (a) and (b), deals with the case of shares offered for public or private subscription, and stipulates that no allotment may be made unless at least 75 per cent. of the shares offered shall have been subscribed. Clause 6 (b), with its sub-sections, authorises the directors to pay a commission to any person who subscribed or procures subscriptions for shares, it being provided, however, that all commissions so paid shall be disclosed—in the case of shares offered to the public in the prospectus—and in the case of shares not offered to the public, in the statement issued in lieu of prospectus, or in a statement to be lodged with the Registrar of Companies. Clause 6 (c) has been inserted to empower the directors to pay interest, not to exceed 6 per cent. per annum, on money which may be subscribed for shares issued in order to provide capital for works, etc., which will not be profitable for a lengthy period, and interest so paid may be charged as part of the cost of the works. It is proposed to alter article 58 so that shares on which calls due have not been paid cannot be effective in a requisition calling for an extraordinary general meeting of shareholders. The new article which it is proposed to insert in place of the existing article 60 empowers requisitionists themselves to convene an extraordinary general meeting of shareholders in the event of the directors failing to convene such a meeting within twenty-one days after the receipt of a request to do so, such meeting to be held within three months from the date of the deposit of the requisition. The suggested alterations to articles 61, 62, 63 and 69, and the addition of the new article 62 (a) are merely for the purpose of bringing the articles of the company into consonance with the Transvaal Companies Act of 1909, while the new article 161, which it is proposed to insert in place of the existing one, will enable the company to be provided with a common seal, and to exercise the powers granted under the Companies Act with regard to official seals in foreign countries.

The alterations were agreed to, there being only one dissentient, by proxy.

**The Simmer & Jack Proprietary Mines, Ltd.**

(INCORPORATED IN THE TRANSVAAL.)

**Declaration of Interim Dividend No. 21.**

NOTICE IS HEREBY GIVEN that an Interim Dividend of seven and a half per cent. (one shilling and sixpence per share), amounting to £225,000, has been declared for the six months ending 31st December, 1912, being at the rate of fifteen per cent. per annum, payable on 13th February, 1913, to Shareholders registered in the Company's Books on the 31st December, 1912.

The Transfer Books of the Company will be closed from 1st to 7th January, 1913, both days inclusive.

The Dividend will be payable to Shareholders on the South African Register by Warrants to be issued from the Head Office of the Company in Johannesburg, and to Shareholders on the London Register by Warrants to be issued from the London Office of the Company.

Holders of Bearer Share Warrants are informed that they will receive payment of the Dividend on presenting Coupon No. 21 either at the Offices of the African Banking Corporation, Limited, 63 London Wall, London, E.C., or at the Offices of The Consolidated Gold Fields of South Africa, Limited, at 12 Rue des Pyramides, Paris (being the Paris Agents of the Company).

Coupons will be payable at any time on or after 13th February, 1913, and must be left for examination at either of the foregoing addresses at least four clear days prior to payment being made.

By order of the Board.

THE CONSOLIDATED GOLD FIELDS OF SOUTH AFRICA, LTD.,  
Secretaries.  
*per J. D. LOW.*

Head Office:  
Consolidated Gold Fields Buildings,  
Simmonds Street, Johannesburg,  
19th December, 1912.

**Robinson Deep Gold Mining Company**

LIMITED.

(INCORPORATED IN THE TRANSVAAL.)

**Declaration of Interim Dividend No. 20.**

NOTICE IS HEREBY GIVEN that an Interim Dividend of Twelve and one-half per cent. (Two shillings and sixpence per share), amounting to £125,000, has been declared for the six months ending 31st December, 1912, being at the rate of 25 per cent. per annum, payable on 30th January, 1913, to Shareholders registered in the Company's Books on 31st December, 1912.

The Transfer Books of the Company will be closed from 1st to 7th January, 1913, both days inclusive.

The Dividend will be payable to Shareholders on the South African Register by Warrants to be issued from the Head Office of the Company in Johannesburg, and to Shareholders on the London Register by Warrants to be issued from the London Office of the Company.

Holders of Share Warrants to Bearer are informed that they will receive payment of the Dividend on presenting Coupon No. 20 either at the Offices of the African Banking Corporation, Limited, 63 London Wall, London, E.C., or at the Offices of The Consolidated Gold Fields of South Africa, Limited, at 12 Rue des Pyramides, Paris (being the Paris Agents of the Company).

Coupons will be payable at any time on or after 30th January, 1913, and must be left for examination at either of the foregoing addresses at least four clear days prior to payment being made.

By order of the Board,

THE CONSOLIDATED GOLD FIELDS OF SOUTH AFRICA, LTD.,  
Secretaries.  
*per J. D. LOW.*

Head Office:  
Consolidated Gold Fields Buildings,  
Simmonds Street, Johannesburg,  
19th December, 1912.

51565

**THE Jupiter Gold Mining Company, LIMITED.**

(INCORPORATED IN THE TRANSVAAL.)

**Declaration of Interim Dividend No. 3.**

NOTICE IS HEREBY GIVEN that an Interim Dividend of Two and a half per cent. (sixpence per share), amounting to £25,355, has been declared for the six months ending 31st December, 1912, being at the rate of Five per cent. per annum, payable on the 30th January, 1913, to Shareholders registered in the Company's books on the 31st December, 1912.

The Transfer Books of the Company will be closed from the 1st January, 1913, to 7th January, 1913, both days inclusive.

The Dividend will be payable to Shareholders on the South African Register by Warrants to be issued from the Head Office of the Company in Johannesburg, and to Shareholders on the London Register by Warrants to be issued from the London Office of the Company.

By order of the Board,  
THE CONSOLIDATED GOLD FIELDS OF SOUTH AFRICA, LTD.,  
Secretaries.  
*per J. D. LOW.*

Head Office:  
Consolidated Gold Fields Buildings,  
Simmonds Street, Johannesburg.  
19th December, 1912.

51566

**The Knights Deep, Limited.**

(INCORPORATED IN THE TRANSVAAL.)

**Declaration of Interim Dividend No. 15.**

NOTICE IS HEREBY GIVEN that an Interim Dividend of Ten per cent. (Two shillings per share), amounting to £64,352 12s. 0d., has been declared for the six months ending 31st December, 1912, being at the rate of Twenty per cent. per annum, payable on the 13th February, 1913, to Shareholders registered in the books of the Company on 31st December, 1912.

The Transfer Books of the Company will be closed from 1st to 7th January, 1913, both days inclusive.

The Dividend will be payable to Shareholders on the South African Register by Warrants to be issued from the Head Office of the Company in Johannesburg, and to Shareholders on the London Register by Warrants to be issued from the London Office of the Company.

By order of the Board,  
THE CONSOLIDATED GOLD FIELDS OF SOUTH AFRICA, LTD.,  
Secretaries.  
*per J. D. LOW.*

Head Office:  
Consolidated Gold Fields Buildings,  
Simmonds Street, Johannesburg.  
19th December, 1912.

51564

**Breyten Collieries, Limited.**

(INCORPORATED IN THE TRANSVAAL.)

**DECLARATION OF DIVIDEND No. 1.**

NOTICE IS HEREBY GIVEN that a Dividend of 10 per cent. (two shillings per share), amounting to £9,000, has been declared for the year ended 31st October, 1912, payable on 30th January, 1913, to Shareholders registered on 31st December, 1912.

The Transfer Books of the Company will be closed from 2nd to 8th January, 1913, both days inclusive.

The Dividend will be payable to Shareholders by warrants to be issued from the Head Office of the Company.

By order of the Board,  
THE CONSOLIDATED GOLD FIELDS OF SOUTH AFRICA, LTD.,  
Secretaries.  
*per J. D. LOW.*

Head Office:  
Consolidated Gold Fields Buildings,  
Simmonds Street, Johannesburg.  
18th December, 1912.

# Moore Patent Upheld by Highest Court

In the case of The Moore Filter Company vs. Tonopah-Belmont Development Company (defended by the Butters Company) the U.S. Circuit Court of Appeals has just handed down a sweeping opinion sustaining the validity of The Moore Process Patent (U.S. 764,486) for filtering slimes, holding the stationary or "Butters" type an infringement, and directing judgment against the defendant for an injunction and an accounting of profits.

## From This Decision There Is No Appeal

This patent, now judicially declared valid, is for our basic and fundamental process of filtering slimes by submergence of the filtering medium, drawing away the solution through the filtering medium, and impoverishing or washing the cake by cleansing operation ; and anticipates and renders infringements all the various types of filtering apparatus using the process, whether such types be movable, stationary (as in the present litigation) pressure, drum or revoluble.

# The Moore Filter Company New York, U.S.A.

Full text of this opinion will be published in the current issues of all the leading Mining Journals.

## To Infringers of the Moore Patents.

Just a word to you indicating our present attitude :

After continuous and unwarranted vilifications, and persistent, grossly unfair and false claims and misrepresentations as to the scope of the claims covered by our patents, in the face of an expenditure on our part of large financial outlay in endeavouring to acquaint the metallurgical world of our rights and our intentions to prosecute with vigour all infringements of such rights, having finally been awarded a far reaching unanimous judgment of the United States Court of Appeals (all three Judges sitting) sustaining the Moore Process as a fundamental and basic patent, from which judgment there is no appeal (any statement, oral or published, to the contrary notwithstanding), we wish to inform all users of slime filters, whether of the "Movable," "Stationary" (designated as "Butters" or otherwise), Revoluble, Drum or Pressure type, that we stand ready to enter into agreements with them providing for the use of our patents upon royalties, terms and conditions similar to those we have been making with our licensees right along.

Naturally, this proposition will not long remain open, and it is our intention to promptly proceed against all who continue to deny our rights, or persist in infringing, and to exact the payment to us of the entire amounts made or saved by the unlicensed use of our process.

**The Moore Filter Company,**

New York, U. S. A., or

HUDSON & FRAMES, Solicitors, JOHANNESBURG.

# Butters Patent Vacuum Filters

There is no cause for uneasiness in regard to the recent decision of the Circuit Court of Appeals in the U.S., in the suit, Moore Filter Co. vs. Tonopah-Belmont Development Co., as the following letter from our Attorney clearly shows the narrow limitations of this decision :

New York, Nov. 11, 1912

To the Butters Patent Vacuum Filter Co., Inc.,  
50, Church Street, New York.

Gentlemen :

Please find enclosed a copy of the opinion written by Judge Buffington as the opinion of the United States Circuit Court of Appeals for the Third Circuit in the suit Moore Filter Co. against Tonopah-Belmont Development Co., over-ruling Judge Rellstab's decision in the lower court, and holding the Moore process patent valid and infringed. The decision that Moore's apparatus patent is not infringed remains in force.

My colleague, Mr. Kenyon, agrees with me that the serious errors of fact on which the opinion rests will be so obvious to all mining and metallurgical engineers that a modification of the opinion by re-hearing is (so far as it might form a persuasive precedent in other courts) quite unnecessary. As, moreover, the decision is binding as a legal precedent only upon the courts of New Jersey, Pennsylvania and Delaware, which form the Third Circuit, and as it is still subject to review by the Supreme Court of the United States by certiorari it should not give any alarm to licensed users of the Butters patent filters or processes anywhere else.

I strongly urge you to consider the advisability of publishing the two opinions together, thus letting public opinion throughout the world be formed upon full information of the reasoning of the two courts. The carefully studied opinion of Judge Rellstab, based on arguments that were not cut short by time limits, will speak for itself to those skilled in the art.

The other pending suit upon the Butters patents against the Moore Filter Co. is not affected by the present decision, but as the Moore Filter Co. has refused to admit its own responsibility for the use of the Butters acid wash and of reduced vacuum while the filter is exposed to the air, I strongly advise you to immediately sue the infringing users themselves.

(Signed) HAROLD BINNEY.

---

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(INCORPORATED IN THE TRANSVAAL.)

**Declaration of Interim Dividend No. 1.**

NOTICE IS HEREBY GIVEN that an Interim Dividend of five per cent. (one shilling per share), amounting to £21,579, has been declared for the period to 31st December, 1912, payable on 13th February, 1913, to Shareholders registered in the books of the Company on 31st December, 1912.

The Transfer Books of the Company will be closed from 1st to 7th January, 1913, both days inclusive.

The Dividend will be payable to Shareholders on the South African Register by Warrants to be issued from the Head Office of the Company in Johannesburg, and to Shareholders on the London Register by Warrants to be issued from the London Office of the Company.

By order of the Board,

THE CONSOLIDATED GOLD FIELDS OF SOUTH AFRICA, LTD.,  
Secretaries.

per J. D. LOW.

## Head Office:

Consolidated Gold Fields Buildings,  
Simmonds Street, Johannesburg,  
19th December, 1912.

51649

**RAND MINES, LIMITED.**

(INCORPORATED IN THE TRANSVAAL.)

**Declaration of Dividend No. 19.**

NOTICE IS HEREBY GIVEN that an Interim Dividend of 110 per cent. (five shillings and sixpence per share) has been declared by the Board for the half-year ending 31st December, 1912.

This Dividend will be payable to all Shareholders registered in the Books of the Company at the close of business on 31st December, 1912, and to holders of Coupons No. 19 attached to Share Warrants to Bearer.

The Transfer Books of the Company will be closed from the 1st to the 7th January, 1913, both days inclusive.

The Dividend will be payable to South African Registered Shareholders from the Head Office, Johannesburg, and to European Shareholders from the London Office, 1 London Wall Buildings, London Wall, E.C., on or about the 11th February, 1913.

Holders of Share Warrants to Bearer are informed that they will receive payment of the Dividend on presentation of Coupon No. 19 at the London Office of the Company, or at the Compagnie Française de Banque et de Mines, 20, Rue Taitbout, Paris, or at the Banque Internationale de Bruxelles, Brussels.

Coupons must be left four clear days for examination, and will be payable at any time on or after the 11th February, 1913.

By order of the Board,

R. E. GRIGGS,  
Acting Joint Secretary.

Head Office,  
The Corner House,  
Johannesburg,  
19th December, 1912.

51617

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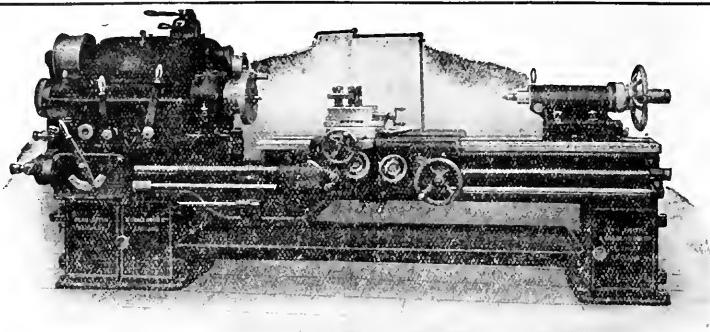
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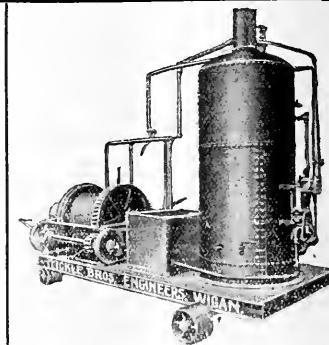
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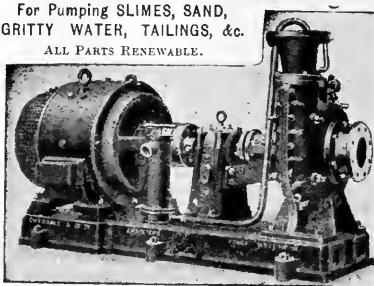
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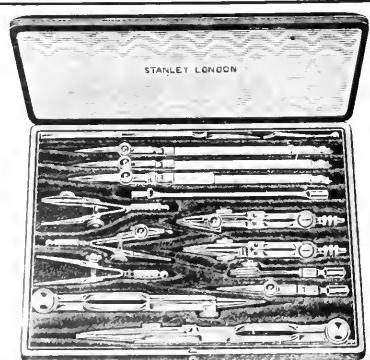
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It is a matter of Cause and Effect : If you use a given quantity of air in a well-constructed Drill, you get the effect in inches drilled ; it is also equally true that if you unduly cut down the air consumption, the good effect is lost, and you do not get the same number of inches drilled.

**Have you seen our range of light, all steel, Stope Drills ?**

Viz :— 3" Cylinder diameter, 180 lbs. weight.  
2½"      "      175      "  
2½"      "      165      "

All of these are very fast drilling machines, and we guarantee the air consumption for inches drilled is equal to the best, and that being all steel they cost from 20% to 50% less in maintenance charges than any other drills upon the market. We will give you FREE TRIALS to prove this.

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The spirit supplied was of identical quality to that we are selling here, in Johannesburg and South Africa generally. For a big race like the above the finest spirit obtainable would, obviously, be selected ; yet Ralph de Palma, the winner of the race, could find nothing better than the spirit we are offering you here. The winning of the Vanderbilt Cup may not be in your line, but you want the maximum mileage out of every gallon of the spirit you use, and you can only get it by using

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